# SOLICITATION, OFFER AND AWARD

| 1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700) | RATING | PAGE | OF | PAGES |
|---|---|---|---|---|
| | DO-C9 | 1 | | 27 |

| 2. CONTRACT NUMBER | 3. SOLICITATION NUMBER | 4. TYPE OF SOLICITATION | 5. DATE ISSUED | 6. REQUISITION/PURCHASE NUMBER |
|---|---|---|---|---|
| | N00173-04-R-LS02 | ☐ SEALED BID (IFB) ☒ NEGOTIATED (RFP) | 11/03/2004 | |

| 7. ISSUED BY | CODE | 8. ADDRESS OFFER TO *(If other than Item 7)* |
|---|---|---|
| CONTRACTING OFFICER<br>NAVAL RESEARCH LABORATORY<br>WASHINGTON DC 20375-5326 | N00173 | TO ALL OFFERORS |

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

## SOLICITATION

9. Sealed offers in original and 3 copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in Building 222, Room 115 until 4:00 pm *(Hour)* local time 12/02/2004 *(Date)*

CAUTION - LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-1. All offers are subject to all terms and conditions contained in this solicitation.

| 10. FOR INFORMATION CALL: | A. NAME | B. TELEPHONE *(NO COLLECT CALLS)* | | | C. E-MAIL ADDRESS |
|---|---|---|---|---|---|
| | | AREA CODE | NUMBER | EXT. | |
| | Lisa A. Fleming | 202 | 767-3739 | | fleming@contracts.nrl.navy.mil |

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## OFFER *(Must be fully completed by offeror)*

NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.

12. In compliance with the above, the undersigned agrees, if this offer is accepted within _____ calendar days *(60 calendar days unless a different period is inserted by the offeror)* from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

| 13. DISCOUNT FOR PROMPT PAYMENT *(See Section I, Clause No. 52.232-8)* | 10 CALENDAR DAYS (%) | 20 CALENDAR DAYS (%) | 30 CALENDAR DAYS (%) | CALENDAR DAYS (%) |
|---|---|---|---|---|
| | | | | |

| 14. ACKNOWLEDGMENT OF AMENDMENTS *(The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated)*: | AMENDMENT NO. | DATE | AMENDMENT NO. | DATE |
|---|---|---|---|---|
| | | | | |
| | | | | |

| 15A. NAME AND ADDRESS OF OFFEROR | CODE | FACILITY | 16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER *(Type or print)* |
|---|---|---|---|
| | | | |

| 15B. TELEPHONE NUMBER | | | 15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE. | 17. SIGNATURE | 18. OFFER DATE |
|---|---|---|---|---|---|
| AREA CODE | NUMBER | EXT. | ☐ | | |
| | | | | | |

## AWARD *(To be completed by Government)*

| 19. ACCEPTED AS TO ITEMS NUMBERED | 20. AMOUNT | 21. ACCOUNTING AND APPROPRIATION |
|---|---|---|
| | | |

| 22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: | 23. SUBMIT INVOICES TO ADDRESS SHOWN IN *(4 copies unless otherwise specified)* | ITEM |
|---|---|---|
| ☐ 10 U.S.C. 2304(c) ( ) ☐ 41 U.S.C. 253(c) ( ) | | |

| 24. ADMINISTERED BY *(If other than Item 7)* | CODE | 25. PAYMENT WILL BE MADE BY | CODE |
|---|---|---|---|
| | | | |

| 26. NAME OF CONTRACTING OFFICER *(Type or print)* | 27. UNITED STATES OF AMERICA *(Signature of Contracting Officer)* | 28. AWARD DATE |
|---|---|---|
| | | |

IMPORTANT - Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.

# PART I - THE SCHEDULE
## SECTION B
## SUPPLIES OR SERVICES AND PRICES/COSTS

### B-1 SUPPLIES/SERVICES AND COSTS

| ITEM NUMBER | SUPPLIES/SERVICES | ESTIMATED COST | FIXED FEE | ESTIMATED COST PLUS FIXED FEE |
|---|---|---|---|---|
| 0001 | The Contractor shall research, development, technical and engineering support services in accordance with Section C. | $ | $ | $ |
| 0002 | Data in accordance with Exhibit A (DD 1423) | * NSP | * NSP | * NSP |
| **TOTAL ESTIMATED COST PLUS FIXED FEE** | | | $ | $ $ |

* *Not Separately Priced*

**NOTICE TO OFFERORS**: In addition to inserting the estimated cost and fixed fee for the base year above, the estimated cost and fixed fee for each optional extension of the term of the contract are to be inserted in Section H.

## SECTION C
## DESCRIPTION/SPECIFICATIONS/STATEMENT OF WORK

### C-1 STATEMENT OF WORK

The work and services to be performed hereunder shall be subject to the requirements and standards contained in Attachment (1), Statement of Work, with Exhibit A, Contract Data Requirements List, and all other Attachments cited in Section J, which are incorporated by reference into Section C.

### C-2 REQUIREMENTS FOR ON-SITE CONTRACTORS

For those portions of the work under this contract performed at any NRL site, the contractor shall comply with the Requirements for On-Site Contractors dated 30 July 2004, which are hereby incorporated by reference. The full text is available at http://heron.nrl.navy.mil/contracts/home.htm.

### C-3 SUBCONTRACTING PLAN

Subcontracting Plan _____ dated _____ is hereby incorporated by reference and made a material part of this contract.

*(*this provision will be included and completed at time of award, if applicable)*

## SECTION D
## PACKAGING AND MARKING

### D-1 PACKAGING AND MARKING

Preservation, packaging, packing and marking of all deliverable contract line items must conform to normal commercial packing standards to assure safe delivery at destination.

## SECTION E
## INSPECTION AND ACCEPTANCE

### E-1 INSPECTION AND ACCEPTANCE CLAUSES INCORPORATED BY REFERENCE

| FAR CLAUSE | | TITLE |
|---|---|---|
| 52.246-8 | - | Inspection Of Research And Development - Cost Reimbursement (MAY 2001) |

| DFARS CLAUSE | | TITLE |
|---|---|---|
| 252.246-7000 | - | Material Inspection And Receiving Report (MAR 2003) |

### E-2 INSPECTION AND ACCEPTANCE

Inspection and acceptance of the final delivery will be accomplished by the Technical Manager (TM) or Contracting Officer Representative (COR) designated in Section G of this contract. Inspection and acceptance will be performed at the Naval Research Laboratory, Washington DC 20375-5320.

## SECTION F
## DELIVERIES OR PERFORMANCE

### F-1 DELIVERIES OR PERFORMANCE CLAUSES INCORPORATED BY REFERENCE:

| FAR CLAUSE | | TITLE |
|---|---|---|
| 52.242-15 | - | Stop-Work Order (AUG 1989) - Alternate I (APR 1984) |
| 52.247-34 | - | F.O.B. Destination (NOV 1991) |

### F-2 PERIOD AND PLACE OF PERFORMANCE

(a) The term of this contract is from date of award through twelve months thereafter, with four options, each extending the period of performance by an additional twelve months, if exercised

(b) The principal place of performance of this contract shall be at the Naval Research Laboratory, Washington DC.

## SECTION G
## CONTRACT ADMINISTRATION DATA

### G-1 PROCURING OFFICE REPRESENTATIVE

In order to expedite administration of the contract, the Administrative Contracting Officer (ACO) will direct inquiries to the appropriate office listed below. Please do not direct routine inquiries to the person listed in Item 20A on Standard Form 26.

Security Matters- Contracting Officer for Security, Code 1221, (202) 767-2240, DSN 297-2240, email security-group@nrl.navy.mil

Safety Matters- Head Safety Branch, Code 3540, (202) 767-2232, DSN 297-2232, email safety@nrl.navy.mil

Patent Matters-Associate Counsel (Intellectual Property), Code 1008.2, (202) 404-1552, DSN 297-1552, email patents@nrl.navy.mil

Release of Data-Public Affairs Officer, Code 1030 (202) 767-2541, DSN 297-2541, email publicaffairs@nrl.navy.mil

### G-2 CONTRACTING OFFICER'S REPRESENTATIVE (COR) - FUNCTIONS AND LIMITATIONS

* is hereby designated the cognizant COR who will represent the Contracting Officer in the administration of technical details within the scope of this contract and inspection and acceptance. The COR is not otherwise authorized to make any representations or commitments of any kind on behalf of the Contracting Officer or the Government. The COR does not have the authority to alter the Contractor's obligations or change the specifications in the contract. If, as a result of technical discussions, it is desirable to alter contract obligations or statements of work, a modification must be issued in writing and signed by the Contracting Officer. The COR is responsible for reviewing the bills and charges submitted by the Contractor and informing the ACO of areas where exceptions are to be taken.

*( * To be completed at time of award)*

### G-3 TECHNICAL DIRECTION MEMORANDUM (TDM)

(a) For the purposes of this clause, technical direction includes the following:
- (1) Direction to the Contractor which shifts work emphasis between work areas or tasks, requires pursuit of certain lines of inquiry, fills in details or otherwise describes work which will accomplish the objectives described in the statement of work;
- (2) Guidelines to the Contractor, which assist in interpretation of drawings, specifications or technical portions of, work description.

(b) Technical instructions must be within the scope of work stated in the contract. Technical instructions may not be used to:

(1) Assign additional work under the contract:
(2) Direct a change as defined in the contract clause entitled "Changes";
(3) Increase or decrease the estimated contract cost, the fixed fee, or the time required for contract performance; or
(4) Change any of the terms, conditions or specifications of the contract

(c) The TDM shall be written by the Contracting Officer's Representative (COR), with the original given to the Contractor and a copy retained in the CORs file. Technical direction may be issued orally only in emergency situations. If technical direction is issued orally, a TDM must follow within two (2) working days from the date of the oral direction. Amendments, corrections, or changes to TDMs shall also be in written format and shall include all the information set forth in paragraph (e) below.

(d) A TDM shall be considered issued when the Government deposits it in the mail, or if transmitted by other means, when it is physically delivered to the contractor.

(e) TDMs shall include, but not be limited to, the following information:

(1) Date of TDM,
(2) Contract Number,
(3) Reference to the relevant portion or item in the Statement of Work,
(4) The specific technical direction or clarification, and
(5) The signature of the COR.

(f) CORs shall retain all files containing TDMs for a period of two (2) years after the final contract completion date.

(g) The only individual authorized in any way to amend or modify any of the terms of this contract shall be the Contracting Officer. When, in the opinion of the Contractor, any technical direction calls for effort outside the scope of the contract or inconsistent with this special provision, the Contractor shall notify the Contracting Officer in writing within ten (10) working days after its receipt.

## G-4 CONTRACTOR-ACQUIRED PROPERTY

(a) The contractor is authorized to acquire the following items of facilities, which are needed to accomplish this contract.

| Items to be Acquired | Estimated Cost |
|---|---|
| * | |

*(*this provision will be included and completed at time of award, if applicable)*

(b) This authorization does not constitute any consent required pursuant to the contract clause entitled "Subcontracts" (FAR 52.244-2). Advance notification or requests for consent pursuant to that clause shall be directed to the administrative contracting officer (ACO).

(c) Pursuant to the contract clause entitled "Government Property (Cost-Reimbursement, Time-and-Material, or Labor-Hour Contracts)" (FAR 52.245-5), title to the property shall vest in the Government.

(d) Prior to acquisition of any item of Industrial Plant Equipment, the Contractor must comply with the requirements of Department of Defense Federal Acquisition Regulation Supplement (DFARS 245.302-1(b)(1)(A). (See DFARS 245.301 for definition of "Industrial Plant Equipment.")

## G-5 SUBCONTRACTORS/CONSULTANTS

(a) Advance notification or requests for consent pursuant to the contract clause entitled "Subcontracts" (FAR 52.244-2) shall be directed to the cognizant administrative contracting officer (ACO).
(b) The following subcontractors/consultants have been identified in the Contractor's proposal as necessary for performance of this contract:

| Subcontractor/Consultant Name | Estimated Cost |
|---|---|

(*Paragraph (b) will be included and filled in at time of award if subcontractor/consultants are proposed by the successful offeror)*

## G-6 INCREMENTAL FUNDING

Pursuant to the Limitation of Funds clause (FAR 52.232-22), the total amount allotted to this contract is $* and it is estimated that this amount is sufficient for contract performance through * .
*(*this provision will be included and completed at time of award, if applicable)*

## G-7 INFORMATIONAL SUBLINE ITEMS

It is anticipated that the research and development services performed under this contract will be paid for from multiple sources of funds. Informational subline items will be established as necessary to identify each accounting citation classification.

## G-8 SPECIAL PAYMENT INSTRUCTIONS- MULTIPLE ACCOUNTING CLASSIFICATION CITATIONS (COST-REIMBURSEMENT)

Payments shall be made in accordance with the ACRN(s) cited on the contractor's invoice. The Contractor may contact the COR regarding which ACRN(s) to cite on an invoice.

## G-9 PAYMENT AND INVOICE INSTRUCTIONS (COST REIMBURSEMENT)

Submission of Invoices

The contractor shall submit invoices and any necessary supporting documentation to the contract auditor at the following address:

*(*To be completed at time of award)*

Following verification, the contract auditor will forward the invoice to the designated payment office for payment in the amount determined to be owing, in accordance with the applicable payment (and fee) clauses(s) of this contract.

The contractor shall provide an information copy of each invoice submitted to the COR identified in Section G.

A DD Form 250 "Material Inspection and Receiving Report" is required.

The contractor's final invoice shall be identified as such, and shall list all other invoices (if any) previously tendered under this contract.

Pursuant to DFARS 242.803(b)(i)(c), if the cognizant Government auditor has notified the contractor of its authorization to do so, the contractor may submit vouchers under this contract direct to the payment office shown in Block 12 of SF 26 instead of to the address shown above. Such authorization does not extend to the first and final vouchers. The contractor shall continue to submit first vouchers to the cognizant auditor shown above. The final voucher shall be submitted to the Administrative Contracting Officer (SF 26, Block 6) with a copy to the cognizant auditor.

## SECTION H
## SPECIAL CONTRACT REQUIREMENTS

### H-1 TYPE OF CONTRACT

This is a *

*(*To be completed at time of award)*

### H-2 ONR 5252.237-9705 - KEY PERSONNEL (DEC 88)

(a) The Contractor agrees to assign to the contract tasks those persons whose resumes were submitted with its proposal and who are necessary to fulfill the requirements of the contract as "key personnel". No substitutions may be made except in accordance with this clause.
(b) The Contractor understands that during the first ninety (90) days of the contract performance period, no personnel substitutions will be permitted unless these substitutions are unavoidable because of the incumbent's sudden illness, death or termination of employment. In any of these events, the Contractor shall promptly notify the Contracting Officer and provide the information described in paragraph (c) below. After the initial ninety (90) day period the Contractor must submit to the Contracting Officer all proposed substitutions, in writing, at least thirty (30) days in advance (sixty (60) days if security clearance must be obtained) of any proposed substitution and provide the information required by paragraph (c) below.
(c) Any request for substitution must include a detailed explanation of the circumstances necessitating the proposed substitution, a resume for the proposed substitute, and any other information requested by the Contracting Officer. Any proposed substitute must have qualifications equal to or superior to the qualifications of the incumbent. The Contracting Officer or his/her authorized representative will evaluate such requests and promptly notify the Contractor of his/her approval or disapproval thereof.
(d) In the event that any of the identified key personnel cease to perform under the contract and the substitute is disapproved, the contract may be immediately terminated in accordance with the Termination clause of the contract.

The following are identified as key personnel: *

*(*To be completed at time of award)*

| Labor Category | First/M/Last Name |
|---|---|
| | |
| | |

**H-3 ONR 5252.216-9706 - LEVEL OF EFFORT (DEC 88)**

(a) The Contractor agrees to provide the total level of effort specified in the next sentence in performance of the work described in this contract. The total level of effort for performance of this contract shall be 297,049 total hours of direct labor for the base year and 297,049 total hours of direct labor for each of the option years, if exercised. total hours of direct labor, including subcontractor direct labor for those subcontractors specifically identified in the Contractor's proposal as having hours included in the proposed level of effort. A breakdown of labor categories and hours is set forth in paragraph (k) below.
(b) The level of effort for this contract shall be expended at an average rate of 24,754 hours per month. It is understood and agreed that the rate of hours per month may fluctuate in pursuit of the technical objective, provided such fluctuation does not result in the use of the total hours of effort prior to the expiration of the term of the contract.
(c) The Contractor is required to notify the Contracting Officer when any of the following situations occur, or are anticipated to occur: If during any three consecutive months the monthly average is exceeded by 25% or, if at any time it is forecast that during the last three months of the contract less than 50% of the monthly average will be used during any given month; or, when 85% of the total level of effort has been expended.
(d) If, during the term of the contract, the Contractor finds it necessary to accelerate the expenditure of direct labor to such an extent that the total hours of effort specified would be used prior to the expiration of the term, the Contractor shall notify the Contracting Officer in writing, setting forth the acceleration required, the probable benefits which would result, and an offer to undertake the acceleration at no increase in the estimated cost or fixed fee together with an offer setting forth a proposed level of effort, cost breakdown, and proposed fixed fee for continuation of the work until expiration of the term hereof. The offer shall provide that the work proposed will be subject to the terms and conditions of this contract and any additions or changes required by then current law, regulations, or directives, and that the offer, with a written notice of acceptance by the Contracting Officer, shall constitute a binding contract. The Contractor shall not accelerate any effort until receipt of such written approval by the Contracting Officer. Any agreement to accelerate will be formalized by contract modification.
(e) The Contracting Officer may, by written order, direct the Contractor to accelerate the expenditure of direct labor such that the total hours of effort specified in paragraph (a) above would be used prior to the expiration of the term. This order shall specify the acceleration required and the resulting revised term. The Contractor shall acknowledge this order within five days of receipt.
(f) If the total level of effort specified in paragraph (a) above is not provided by the Contractor during the term of this contract, the Contracting Officer shall either (i) reduce the fixed fee of this contract as follows:

$$\text{Fee Reduction} = \text{Fixed Fee} \times \frac{\text{Required LOE Hours - Expended LOE Hours}}{\text{Required LOE Hours}}$$

or (ii) subject to the provisions of the clause of this contract entitled "Limitation of Cost," require the Contractor to continue to perform the work until the total number of hours of direct labor specified in paragraph (a) shall have been expended, at no increase in the fixed fee of this contract.

(g) In the event the government fails to fully fund the contract in a timely manner, the term of the contract may be extended accordingly with no change to cost or fee. If the government fails to fully fund the contract, the fee will be adjusted in direct proportion to that effort which was performed.

(h) Notwithstanding any of the provisions in the above paragraphs, the Contractor may furnish hours up to five percent in excess of the total hours specified in paragraph (a) above, provided that the additional effort is furnished within the term hereof, and provided further that no increase in the estimated cost or fixed fee is required, and no adjustment in the fixed fee shall be made provided that the Contractor has delivered at least 95% of the level of effort required in paragraph (a) above.

(i) It is understood that the mix of labor categories provided by the Contractor under the contract, as well as the distribution of effort among those categories, may vary considerably from the initial mix and distribution of effort which was estimated by the government or proposed by the Contractor.

(j) Nothing herein shall be construed to alter or waive any of the rights or obligations of either party pursuant to the Clause entitled "Limitation of Costs" or "Limitation of Funds," either of which clauses as incorporated herein applies to this contract.

(k) The anticipated breakdown by labor category of the total level of effort is as follows:

| Labor Category | Hours/Year |
|---|---|
| Program Manager | 9,400 |
| System Engineer | 77,080 |
| Electrical Engineer | 43.240 |
| Mechanical Engineer | 9,400 |
| Computer Scientist | 15,049 |
| Computer Specialist | 26,320 |
| Electronic Technician | 47,000 |
| Project Coordinator | 9,400 |
| CAD Specialist | 11,280 |
| CAD Operator | 9,400 |
| Adm/Clerical/Proj Coordinator | 16,920 |
| Misc. Support | 18,800 |
| CM Specialist | 3,760 |

## H-4 ONR 5252.235-9714 - REPORT PREPARATION (FEB 02)

Scientific or technical reports prepared by the Contractor and deliverable under the terms of this contract will be prepared in accordance with format requirements contained in ANSI/NISO Z39.18-1995, Scientific and Technical Reports: Elements, Organization, and Design.

[NOTE: All NISO American National Standards are available as free, downloadable pdf(s) at http://www.niso.org/standards/index.html . NISO standards can also be purchased in hardcopy form from NISO Press Fulfillment, P. O. Box 451, Annapolis Junction, MD 20701-0451 USA. Telephone U.S. and Canada: (877) 736-6476; Outside the U.S. and Canada: 301-362-6904 ax: 301-206-9789.]

## H-5 ELECTRONIC AND INFORMATION TECHNOLOGY (EIT)

In accordance with Section 508 of the Rehabilitation Act of 1973 (29 U.S.C. 794d), all EIT supplies and services provided under this contract must comply with the applicable accessibility standards issued by the Architectural and Transportation Barriers Compliance Board at 36 CFR part 1194 (see FAR Subpart 39.2). Electronic and information technology (EIT) is defined at FAR 2.101.

## H-6 OPTION TO EXTEND THE TERM OF THE CONTRACT

This contract shall be renewable at the unilateral option of the Government by the Contracting Officer giving written notice of renewal to the Contractor within the existing term of the contract. The Government may exercise its option to renew the contract a total of four times and each such renewal shall extend the term of the contract by twelve (12) months. The Contractor agrees that performance under each such renewal shall be accomplished in accordance with all of the terms and conditions of this contract and at the estimated cost and fixed fee set forth below:

**First Option**

| | |
|---|---|
| Estimated Cost: | $ |
| Fixed Fee: | $ |
| Estimated Cost Plus Fixed Fee: | $ |

**Second Option**

| | |
|---|---|
| Estimated Cost: | $ |
| Fixed Fee: | $ |
| Estimated Cost Plus Fixed Fee: | $ |

**Third Option**

| | |
|---|---|
| Estimated Cost: | $ |
| Fixed Fee: | $ |
| Estimated Cost Plus Fixed Fee: | $ |

**Fourth Option**

| | |
|---|---|
| Estimated Cost: | $ |
| Fixed Fee: | $ |
| Estimated Cost Plus Fixed Fee: | $ |

## H-7 ON-SITE USE OF GOVERNMENT PROPERTY

It is anticipated that Government property will be used by the contractor's personnel in the performance of that portion of the contract performed on-site at the U.S. Naval Research Laboratory (NRL) including any of its field sites. Such use will be on a rent-free basis and all such property shall be considered to remain in the possession and control of the NRL for property responsibility and accountability purposes.

## H-8 REPRESENTATIONS AND CERTIFICATIONS

The Contractor's completed Representations, Certifications, and Other Statements of Offerors or Respondents is incorporated herein by reference in any resultant award.

## H-9 SUBCONTRACTING PLAN

The contractor's Comprehensive Small Business Subcontracting Plan is incorporated into this contract in accordance with DFARS SUBPART 219.7 *Test Program for Negotiation of Comprehensive Small Business Subcontracting Plans.*

# PART II - CONTRACT CLAUSES
# SECTION I
# CONTRACT CLAUSES

## I-1 FAR 52.252-2 - CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

http://www.arnet.gov/far
http://heron.nrl.navy.mil/contracts/home.htm

## a. FEDERAL ACQUISITION REGULATION CLAUSES

| FAR CLAUSE | | TITLE |
|---|---|---|
| 52.202-1 | - | Definitions (JUL 2004) |
| 52.203-3 | - | Gratuities (APR 1984) |
| 52.203-5 | - | Covenant Against Contingent Fees (APR 1984) |
| 52.203-6 | - | Restrictions On Subcontractor Sales To The Government (JUL 1995) |
| 52.203-7 | - | Anti-Kickback Procedures (JUL 1995) |
| 52-203-8 | - | Cancellation, Rescission, And Recovery Of Funds For Illegal Or Improper Activity (JAN 1997) |

52.203-10 - Price Or Fee Adjustment For Illegal Or Improper Activity (JAN 1997)
52.203-12 - Limitation On Payments To Influence Certain Federal Transactions (JUN 2003)
52.204-2 - Security Requirements (AUG 1996)
52.204-4 - Printed Or Copied Double-Sided On Recycled Paper (AUG 2000)
52.209-6 - Protecting The Government's Interest When Subcontracting With Contractors Debarred, Suspended, Or Proposed For Debarment (JUL 1995)
52.211-15 - Defense Priority And Allocation Requirements (SEP 1990)
52.215-2 - Audit And Records-Negotiation (JUN 1999)
52.215-8 - Order Of Precedence - Uniform Contract Format (OCT 1997)
52.215-10 - Price Reduction For Defective Cost Or Pricing Data (OCT 1997)
52.215-11 - Price Reduction For Defective Cost Or Pricing Data - Modifications (OCT 1997)
52.215-12 - Subcontractor Cost Or Pricing Data (OCT 1997)
52.215-13 - Subcontractor Cost Or Pricing Data Modifications (OCT 1997)
52.215-14 - Integrity Of Unit Prices (OCT 1997)
52.215-15 - Pension Adjustments And Asset Reversions (OCT 2004)
52.215-17 - Waiver Of Facilities Capital Cost Of Money (OCT 1997)
( *will be included if the successful offeror does not propose facilities capital cost of money)*
52.215-18 - Reversion Or Adjustment Of Plans For Post-Retirement Benefits (PRB) Other Than Pensions (OCT 1997)
52.215-19 - Notification Of Ownership Changes (OCT 1997)
52.215-21 - Requirements For Cost Or Pricing Data Or Information Other Than Cost or Pricing Data -Modifications (OCT 1997)
52.215-21 - Requirements For Cost Or Pricing Data Or Information Other Than Cost Or Pricing Data-Modifications (OCT 1997) - Alternate II (OCT 1997)
52.215-21 - Requirements For Cost Or Pricing Data Or Information Other Than Cost Or Pricing Data -Modifications (OCT 1997) - Alternate III (OCT 1997) *(Submit the cost portion of the proposal via the following electronic media: CD Rom containing cost and technical proposals in PDF format with an Excel version of the cost proposal.)*
52.216-7 - Allowable Cost And Payment (DEC 2002) (fill in 30th
52.216-8 - Fixed-Fee (MAR 1997)
52.219-4 - Notice Of Price Evaluation Preference For HUBZone Small Business Concerns (OCT 2004) ☐ Offeror elects to waive the evaluation preference.
52.219-8 - Utilization Of Small Business Concerns (MAY 2004)
52.219-9 - Small Business Subcontracting Plan (JAN 2002) - Alternate II (OCT 2001)
52.219-16 - Liquidated Damages-Subcontracting Plan (JAN 1999)
52.219-25 - Small Disadvantaged Business Participation Program-Disadvantaged Status And Reporting (OCT 1999)
52.222-2 - Payment For Overtime Premiums (JUL 1990) -The Use Of Overtime Is Authorized Under This Contract If The Overtime Premium Does Not Exceed "0"
52.222-3 - Convict Labor (JUN 2003)
52.222-21 - Prohibition Of Segregated Facilities (FEB 1999)
52.222-26 - Equal Opportunity (APR 2002)
52.222-35 - Equal Opportunity For Special Disabled Veterans, Veterans Of The Vietnam Era, And Other Eligible Veterans (DEC 2001)
52.222-36 - Affirmative Action For Workers With Disabilities (JUN 1998)
52.222-37 - Employment Reports On Special Disabled Veterans, Veterans Of The Vietnam Era, And Other Eligible Veterans (DEC 2001)

52.223-3 - Hazardous Material Identification And Material Safety Data (JAN 1997)
52.223-5 - Pollution Prevention And Right-To-Know Information (AUG 2003)
52.223-6 - Drug-Free Workplace (MAY 2001)
52.223-10 - Waste Reduction Program (AUG 2000)
52.223-14 - Toxic Chemical Release Reporting (AUG 2003)
52.225-13 - Restrictions On Certain Foreign Purchases (JAN 2004)
52.227-1 - Authorization And Consent (JUL 1995)- Alternate I (APR 1984)
52.227-2 - Notice And Assistance Regarding Patent And Copyright Infringement (AUG 1996)
52.227-10 - Filing Of Patent Application- Classified Subject Matter (APR 1984)
52.227-11 - Patent Rights - Retention By The Contractor (Short Form) (JUN 1997)
(*will be included if the successful offeror is a small business or a non-profit organization)*
52.227-12 - Patent Rights - Retention By The Contractor (Long Form) (JAN 1997)
(*will be included if the successful offeror is not a small business or a non-profit organization)*
52.228-7 - Insurance - Liability To Third Persons (MAR 1996)
52.230-2 - Cost Accounting Standards (APR 1998)
52.232-9 - Limitation On Withholding Of Payments (APR 1984)
52.232-17 - Interest (JUN 1996)
52.232-18 - Availability Of Funds (APR 1984)
52.232-20 - Limitation Of Cost (APR 1984) *(Applicable when the contract or task order is fully funded)*
52.232-22 - Limitation Of Funds (APR 1984) *(Applicable when the contract or task order is not fully funded)*
52.232-23 - Assignment Of Claims (JAN 1986) Alternate I (APR 1984)
52.232-25 - Prompt Payment (OCT 2003) Alternate I(FEB 2002)
52.232-33 - Payment By Electronic Funds Transfer-Central Contractor Registration (OCT 2003)
52.233-1 - Disputes (JUL 2002) - Alternate I (DEC 1991)
52.233-3 - Protest After Award (AUG 1996) - Alternate I (JUN 1985)
52.233-4 - Applicable Law For Breach Of Contract Claim (OCT 2004)
52.237-2 - Protection Of Government Buildings, Equipment And Vegetation (APR 1984)
52.242-1 - Notice Of Intent To Disallow Costs (APR 1984)
52.242-3 - Penalties For Unallowable Costs (MAY 2001)
52.242-4 - Certification of Final Indirect Costs (JAN 1997)
52.242-13 - Bankruptcy (JUL 1995)
52.243-2 - Changes - Cost-Reimbursement (AUG 1987) - Alternate V (APR 1984)
52.244-2 - Subcontracts (AUG 1998) - Alternate I (AUG 1998)
52.244-5 - Competition In Subcontracting (DEC 1996)
52.244-6 - Subcontracts For Commercial Items (JUL 2004)
52.245-5 - Government Property (Cost-Reimbursement, Time-And-Material, Or Labor-Hour Contracts) (JUN 2003) (DEVIATION)
52.245-18 - Special Test Equipment (FEB 1993)
52.246-23 - Limitation Of Liability (FEB 1997)
52.246-25 - Limitation Of Liability - Services (FEB 1997)
52.247-1 - Commercial Bill Of Lading Notations (APR 1984)
52.247-63 - Preference For U. S. Flag Carriers (JUN 2003)
52.249-6 - Termination (Cost-Reimbursement) (MAY 2004)
52.249-14 - Excusable Delays (APR 1984)

52.251-1 - Government Supply Sources (APR 1984)
52.252-6 - Authorized Deviations in Clauses (APR 1984)( fill in Defense Federal Acquisition Regulation Supplement (48 CFR Chapter 2))
52.253-1 - Computer Generated Forms (JAN 1991)

**b. DEPARTMENT OF DEFENSE FEDERAL ACQUISITION REGULATION CLAUSES**

| DFARS CLAUSE | | TITLE |
|---|---|---|
| 252.201-7000 | - | Contracting Officer's Representative (DEC 1991) |
| 252.203-7001 | - | Prohibition On Persons Convicted Of Fraud Or Other Defense Contract Related Felonies (MAR 1999) |
| 252.203-7002 | - | Display Of DoD Hotline Poster (DEC 1991) |
| 252.204-7000 | - | Disclosure Of Information (DEC 1991) |
| 252.204-7003 | - | Control Of Government Personnel Work Product (APR 1992) |
| 252.204-7004 | - | Alternate A (NOV 2003) |
| 252.204-7005 | - | Oral Attestation Of Security Responsibilities (NOV 2001) |
| 252.205-7000 | - | Provision Of Information To Cooperative Agreement Holders (DEC 1991) |
| 252.209-7000 | - | Acquisition From Subcontractors Subject To On-Site Inspection Under The Intermediate-Range Nuclear Forces (INF) Treaty (NOV 1995) |
| 252.209-7004 | - | Subcontracting With Firms That Are Owned Or Controlled By The Government Of A Terrorist Country (MAR 1998) |
| 252.215-7000 | - | Pricing Adjustments (DEC 1991) |
| 252.215-7002 | - | Cost Estimating System Requirements (OCT 1998) |
| 252.219-7003 | - | Small Business And Small Disadvantaged Business Subcontracting Plan (DoD Contracts) (APR 1996) |
| 252.219-7004 | - | Small, Small Disadvantaged And Women-Owned Small Business Subcontracting Plan (Test Program) (JUN 1997) |
| 252.223-7001 | - | Hazard Warning Labels (DEC 1991) |
| 252.223-7004 | - | Drug-Free Work Force (SEP 1988) |
| 252.223-7006 | - | Prohibition On Storage And Disposal Of Toxic And Hazardous Materials (APR 1993) |
| 252.225-7001 | - | Buy American Act And Balance Of Payments Program (APR 2003) |
| 252.225-7002 | - | Qualifying Country Sources As Subcontractors (APR 2003) |
| 252.225-7012 | - | Preference For Certain Domestic Commodities (JUN 2004) |
| 252.225-7013 | - | Duty Free Entry (JAN 2004) |
| 252.225-7031 | - | Secondary Arab Boycott Of Israel (APR 2003) |
| 252.225-7043 | - | Antiterrorism/Force Protection Policy For Defense Contractors Outside The United States (JUN 1998) (fill in : Naval Criminal Investigative Service (NCIS), Code 24, telephone, DSN 228-9113 or commercial (202)433-9113) |
| 252.226-7001 | - | Utilization of Indian Organizations, Indian-Owned Economic Enterprises, And Native Hawaiian Small Business Concerns (OCT 2003) |
| 252.227-7013 | - | Rights In Technical Data -- Noncommercial Items (NOV 1995) |
| 252.227-7014 | - | Rights In Noncommercial Computer Software And Noncommercial Computer Software Documentation (JUN 1995) |
| 252.227-7016 | - | Rights In Bid Or Proposal Information (JUN 1995) |
| 252.227-7019 | - | Validation Of Asserted Restrictions--Computer Software (JUN 1995) |
| 252.227-7025 | - | Limitations On The Use Or Disclosure Of Government-Furnished Information Marked With Restrictive Legends (JUN 1995) |

252.227-7030 - Technical Data--Withholding Of Payment (MAR 2000)
252.227-7034 - Patents--Subcontracts (APR 1984)
252.227-7037 - Validation Of Restrictive Markings On Technical Data (SEP 1999)
252.227-7039 - Patents--Reporting Of Subject Inventions (APR 1990)
252.231-7000 - Supplemental Cost Principles (DEC 1991)
252.232-7003 - Electronic Submission Of Payment Requests (JAN 2004)
252.235-7010 - Acknowledgment Of Support And Disclaimer (MAY 1995)
252.235-7011 - Final Scientific Or Technical Report (SEP 1999)
252.242-7000 - Post Award Conference (DEC 1991)
252.242-7004 - Material Management And Accounting System (DEC 2000)
252.243-7002 - Requests For Equitable Adjustment (MAR 1998)
252.244-7000 - Subcontracts For Commercial Items And Commercial Components (DOD Contracts) (MAR 2000)
252.245-7001 - Reports Of Government Property (MAY 1994)
252.246-7001 - Warranty Of Data (DEC 1991)
252.247-7023 - Transportation Of Supplies By Sea (MAY 2002)
252.247-7024 - Notification Of Transportation Of Supplies By Sea (MAR 2000) *(will be included if the successful offeror made a negative response to the inquiry at DFARS 252.247-7022)*
252.251-7000 - Ordering From Government Supply Sources (OCT 2002)

## I-2 FAR 52.223-11 - OZONE-DEPLETING SUBSTANCES (MAY 2001)

(a) *Definitions.* "Ozone-depleting substance", as used in this clause, means any substance the Environmental Protection Agency designates in 40 CFR Part 82 as –

(1) Class I, including, but not limited to, chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform; or
(2) Class II, including, but not limited to, hydrochlorofluorocarbons.

(b) The Contractor shall label products which contain or are manufactured with ozone-depleting substances in the manner and to the extent required by 42 U.S.C. 7671j (b), (c), and (d) and 40 CFR Part 82, Subpart E, as follows:

WARNING

Contains (or manufactured with, if applicable) * _____, a substance(s) which harm(s) public health and environment by destroying ozone in the upper atmosphere.

*The Contractor shall insert the name of the substance(s).

## PART III - LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS
## SECTION J
## LIST OF ATTACHMENTS

**J-1** Attachment (1) - Statement Of Work - 30 Pages, With Exhibit A - DD Form 1423, Contract Data Requirements List, 3 Pages.

**J-2** Attachment (2) - DD Form 254, Contract Security Classification Specification, Ser 017-04 Dated 19 March 2004w/Attachments 2 Pages.

**J-3** Attachment (3) – Personnel Qualifications, 12 Pages.

**J-4** Attachment (4) – List of Interested Parties, 4 Pages.

*(Will be deleted at time of award.)*

**J-5** Attachment (5) – Accounting and Appropriation Data- 1 page. *

*(* To be included at time of award)*

## PART IV - REPRESENTATIONS AND INSTRUCTIONS
## SECTION - K
## REPRESENTATIONS, CERTIFICATIONS
## AND OTHER STATEMENTS OF OFFERORS OR RESPONDENTS

### K-1 Representations, Certifications, and Other Statements of Offerors or Respondents

Each Offeror must submit a completed Representations, Certifications, and Other Statements Of Offerors or Respondents with its proposal which is available electronically in full text at http://heron.nrl.navy.mil/contracts/repsandcerts.htm

Use Representations and Certifications: A

### K-2 FILL IN FOR FAR 52.219-1 - SMALL BUSINESS PROGRAM REPRESENTATIONS (APR 2002)

The fill in information is as follows:

The NAICS code for this acquisition is: 541710
The small business size standard is: 500

## SECTION L
## INSTRUCTIONS CONDITIONS AND NOTICES TO OFFERORS OR RESPONDENTS

### L-1 FAR 52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FEB 1998)

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es):

http://www.arnet.gov/far
http://heron.nrl.navy.mil/contracts/home.htm

| FAR CLAUSE | | TITLE |
|---|---|---|
| 52.204-6 | - | Data Universal Numbering System (DUNS) Number (OCT 2003) |
| 52.204-7 | - | Central Contractor Registration (OCT 2003) |
| 52.211-2 | - | Availability Of Specifications Listed In The DOD Index Of Specifications And Standards (DoDISS) And Descriptions Listed In The Acquisition Management Systems And Data Requirements Control List, DoD 5010.12-L (DEC 2003) |
| 52.214-34 | - | Submission Of Offers In The English Language (APR 1991) |
| 52.214-35 | - | Submission Of Offers In U.S. Currency (APR 1991) |
| 52.215-1 | - | Instructions To Offerors- Competitive Acquisition (JAN 2004) |
| 52.215-16 | - | Facilities Capital Cost Of Money (JUN 2003) |
| 52.219-24 | - | Small Disadvantaged Business Participation Program - Targets (OCT 2000) |
| 52.222-24 | - | Preaward On-Site Equal Opportunity Compliance Evaluation (FEB 1999) |
| 52.237-10 | - | Identification Of Uncompensated Overtime (OCT 1997) |

| DFAR CLAUSE | TITLE |
|---|---|
| 252.209-7001 | Disclosure Of Ownership Or Control By The Government Of A Terrorist Country (SEP 2004) |
| 252.211-7005 | Substitutions For Military Or Federal Specifications And Standards (FEB 2003) |

### L-2 INSTRUCTIONS FOR SUBMISSION OF PROPOSALS/OFFERS

All proposals shall be submitted in accordance with FAR 52.215-1- *Instructions to Offerors-Competitive Acquisition.* Proposals/offers submitted in paper media through the United States Postal Service (USPS) or delivery services shall be addressed to:

Contracting Officer, ATTN: Code 3230.LS
Naval Research Laboratory (NRL)
4555 Overlook Avenue, S.W.
Washington, D.C. 20375

Solicitation/RFP No. – N00173-04-RLS02
Closing Date: 02 December 2004 Time 4:00 PM EST

Proposals may be hand delivered to the Contracting Office, NRL, 4555 Overlook Avenue, S.W., Washington, D.C. 20375, Building 222, Room 115 between the hours of 8AM until 4PM, local time, excluding weekends and federal holidays. NRL is a controlled-access facility. Photo identification will be required. Report first to Building 72, Visitor Control for access to NRL. After receiving a Visitor Pass, proceed directly to Building 222, Room 115, Contracting Office Receptionist to deliver the proposal. All offerors shall allow sufficient time for delivery of their proposal to the Contracting Office prior to the closing date and time announced in the solicitation. Directions and additional information about NRL is available at http://www.nrl.navy.mil/aboutdc.htm

If facsimile proposals are authorized, contracting officers may request offeror(s) to provide the complete; original signed proposal at a later date.

**L-3 FAR 52.211-14 - NOTICE OF PRIORITY RATING FOR NATIONAL DEFENSE USE (SEP 1990)**

Any contract awarded as a result of this solicitation will be a ☐ DX rated order; ☒ DO rated order certified for national use under the Defense Priorities and Allocations system (DPAS) (15 CFR 700), and the Contractor will be required to follow all of the requirements of this regulation.

**L-4 FAR 52.215-20 REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA (OCT 1997) ALTERNATE II (OCT 1997) AND ALTERNATE III (OCT 1997)**

(a) *Exceptions from cost or pricing data*. (1) In lieu of submitting cost or pricing data, offerors may submit a written request for exception by submitting the information described in the following subparagraphs. The Contracting Officer may require additional supporting information, but only to the extent necessary to determine whether an exception should be granted, and whether the price is fair and reasonable.

(i) *Identification of the law or regulation establishing the price offered*. If the price is controlled under law by periodic rulings, reviews, or similar actions of a governmental body, attach a copy of the controlling document, unless it was previously submitted to the contracting office.

(ii) *Commercial item exception.* For a commercial item exception, the offeror shall submit, at a minimum, information on prices at which the same item or similar items have previously been sold in the commercial market that is adequate for evaluating the reasonableness of the price for this acquisition. Such information may include--

(A) For catalog items, a copy of or identification of the catalog and its date, or the appropriate pages for the offered items, or a statement that the catalog is on file in the buying office to which the proposal is being submitted. Provide a copy or describe current discount policies and price lists (published or unpublished), e.g., wholesale, original equipment manufacturer, or reseller. Also explain the basis of each offered price and its relationship to the established catalog price, including how the proposed price relates to the price of recent sales in quantities similar to the proposed quantities.

(B) For market priced items, the source and date or period of the market quotation or other basis for market price, the base amount, and applicable discounts. In addition, describe the nature of the market.

(C) For items included on an active Federal Supply Service Multiple Award Schedule contract, proof that an exception has been granted for the schedule item.

(2) The offeror grants the Contracting Officer or an authorized representative the right to examine, at any time before award, books, records, documents, or other directly pertinent records to

verify any request for an exception under this provision, and the reasonableness of price. For items priced using catalog or market prices, or law or regulation, access does not extend to cost or profit information or other data relevant solely to the offeror's determination of the prices to be offered in the catalog or marketplace.

(b) *Requirements for cost or pricing data*. If the offeror is not granted an exception from the requirement to submit cost or pricing data, the following applies:

(1) The offeror shall prepare and submit cost or pricing data and supporting attachments in accordance with Table 15-2 of FAR 15.408.

(2) As soon as practicable after agreement on price, but before contract award (except for unpriced actions such as letter contracts), the offeror shall submit a Certificate of Current Cost or Pricing Data, as prescribed in FAR 15.406-2.

(c) When the proposal is submitted, also submit one copy each to: (1) the Administrative Contracting Officer, and (2) the Contract Auditor.

(d) Submit the cost portion of the proposal via the following electronic media: *CD Rom containing an Excel version of the cost proposal compatible with Microsoft Excel 2000.*

**L-5 FAR 52.216-1 - TYPE OF CONTRACT (APR 1984)**

The Government contemplates award of a Cost Plus Fixed Fee Term contract resulting from this solicitation.

**L-6 FAR 52.222-18 – CERTIFICATION REGARDING KNOWLEDGE OF CHILD LABOR FOR LISTED END PRODUCTS (FEB 2001)**

The fill-in information is as follows:

| Listed End Product | Listed Countries of Origin |
|---|---|
| | |
| | |

**FAR 52.233-2 - SERVICE OF PROTEST (AUG 1996)**

(a) Protests, as defined in Section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO) shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from the Control Desk, Code 3200, Bldg. 222, Rm. 115, Naval Research Laboratory, 4555 Overlook Ave., S.W., Washington DC 20375-5326.

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

**L-8 DFARS 252.227-7017 - IDENTIFICATION AND ASSERTION OF USE, RELEASE, OR DISCLOSURE RESTRICTIONS (JUN 1995)**

(a) The terms used in this provision are defined in following clause or clauses contained in this solicitation—

(1) If a successful offeror will be required to deliver technical data, the Rights in Technical Data--Noncommercial Items clause, or, if this solicitation contemplates a contract under the Small Business Innovative Research Program, the Rights in Noncommercial Technical Data and Computer Software--Small Business Innovative Research (SBIR) Program clause.

(2) If a successful offeror will not be required to deliver technical data, the Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation clause, or, if this solicitation contemplates a contract under the Small Business Innovative Research Program, the Rights in Noncommercial Technical Data and Computer Software--Small Business Innovative Research (SBIR) Program clause.

(b) The identification and assertion requirements in this provision apply only to technical data, including computer software documents, or computer software to be delivered with other than unlimited rights. For contracts to be awarded under the Small Business Innovative Research Program, the notification requirements do not apply to technical data or computer software that will be generated under the resulting contract. Notification and identification is not required for restrictions based solely on copyright.

(c) Offers submitted in response to this solicitation shall identify, to the extent known at the time an offer is submitted to the Government, the technical data or computer software that the Offeror, its subcontractors or suppliers, or potential subcontractors or suppliers, assert should be furnished to the Government with restrictions on use, release, or disclosure.

(d) The Offeror's assertions, including the assertions of its subcontractors or suppliers or potential subcontractors or suppliers shall be submitted as an attachment to its offer in the following format, dated and signed by an official authorized to contractually obligate the Offeror:

Identification and Assertion of Restrictions on the Government's Use, Release, or Disclosure of Technical Data or Computer Software.

The Offeror asserts for itself, or the persons identified below, that the Government's rights to use, release, or disclose the following technical data or computer software should be restricted:

| Technical Data Computer Software to be Furnished With Restrictions* | Basis for Assertion ** | Asserted Rights Category *** | Name of Person Asserting Restrictions**** |
|---|---|---|---|
| (List)***** | (List) | (List) | (List) |

* For technical data (other than computer software documentation) pertaining to items, components, or processes developed at private expense, identify both the deliverable technical data and each such items, component, or process. For computer software or computer software documentation identify the software or documentation.

** Generally, development at private expense, either exclusively or partially, is the only basis for asserting restrictions. For technical data, other than computer software documentation, development refers to development of the item, component, or process to which the data pertain. The Government's rights in computer software documentation generally may not be restricted. For computer software, development refers to the software. Indicate whether development was accomplished exclusively or partially at private expense. If development was not accomplished at private expense, or for computer software documentation, enter

the specific basis for asserting restrictions.

*** Enter asserted rights category (e.g., government purpose license rights from a prior contract, rights in SBIR data generated under another contract, limited, restricted, or government purpose rights under this or a prior contract, or specially negotiated licenses).

**** Corporation, individual, or other person, as appropriate.

***** Enter "none" when all data or software will be submitted without restrictions.

Date _____

Printed Name and Title _____

_____

Signature _____

(End of identification and assertion)

(e) An offeror's failure to submit, complete, or sign the notification and identification required by paragraph (d) of this provision with its offer may render the offer ineligible for award.

(f) If the Offeror is awarded a contract, the assertions identified in paragraph (d) of this provision shall be listed in an attachment to that contract. Upon request by the Contracting Officer, the Offeror shall provide sufficient information to enable the Contracting Officer to evaluate any listed assertion.

## L-9 DFARS 252.227-7028 - TECHNICAL DATA OR COMPUTER SOFTWARE PREVIOUSLY DELIVERED TO THE GOVERNMENT (JUN 1995)

The Offeror shall attach to its offer an identification of all documents or other media incorporating technical data or computer software it intends to deliver under this contract with other than unlimited rights that are identical or substantially similar to documents or other media that the Offeror has produced for, delivered to, or is obligated to deliver to the Government under any contract or subcontract. The attachment shall identify - -

(a) The contract number under which the data or software were produced;

(b) The contract number under which, and the name and address of the organization to whom, the data or software were most recently delivered or will be delivered; and

(c) Any limitations on the Government's rights to use or disclose the data or software, including, when applicable, identification of the earliest date the limitations expire.

## L-10 GOVERNMENT-FURNISHED PROPERTY

No material, labor, or facilities will be furnished by the Government unless provided for in the solicitation.

## L-11 INQUIRIES CONCERNING THE RFP

Any questions concerning the RFP must be submitted in writing to the Contracting Officer at the location noted in blocks 7 and 9 of the Standard Form 33, "Solicitation, Offer and Award," no less than fifteen (15) days before closing. The Government will not consider questions received after this date. Offerors are cautioned against directing any questions concerning this RFP to technical personnel at the Naval Research Laboratory.

## L-12 PROPOSAL ORGANIZATION

(1) Information for the technical/management proposal shall be placed in Volume I and be completely separate from the business proposal (Volume II).

(2) Proposal Format and Length - No attempt is made to restrict the proposal format and style. However, the proposal should be written and organized so as to be compatible with the RFP, the Statement of Work, company's organization and accounting structure, and proposed cost estimate. Offerors are encouraged to use recycled paper and maximize the use of double sided copying when preparing responses to solicitations.

## L-13 VOLUME I - TECHNICAL/MANAGEMENT PROPOSAL

REQUIRED COPIES: 1 ORIGINAL AND 3 COPIES . Offerors are encouraged to submit an electronic copy of their proposal on a CD ROM in addition to their paper copies. This is in an effort to further the Government’s ambitions of operating in a paperless environment.

(1) Include a matrix indicating proposed labor hours by skill category required to perform the statement of work. This matrix shall not contain labor rates or any other indication of price.

(2) The following information is required for evaluation of your technical/management :

PERSONNEL QUALIFICATIONS - The proposer should provide convincing evidence that the company has, or has the ability, to obtain personnel with relevant experience in the scientific and technical areas described in the Statement of Work. These areas are highly specialized fields and personnel without actual experience in these areas are not acceptable. The proposal should clearly show how each person offered meets the personnel qualifications as detailed in the Solicitation. The proposal should detail each person’s qualifications and experience in each area of the Statement of Work. It is essential for the offeror to demonstrate that key personnel possess or will be capable of possessing a Sensitive Compartmented Information (SCI) clearance. It is further desired that all non-key personnel also be capable of obtaining the same. The proposal should specify the amount of effort each person will be performing on this contract, both by the prime contractor as well as any proposed subcontractors.

COMPANY EXPERIENCE - The proposal must provide a narrative description of company experience on projects with scientific and technical tasks similar to those required in the Statement of Work. This description should clearly show: (1) the relationship between the company’s experience and the tasks required under the Statement of Work and (2) prior or current programs in the task areas.

MANAGEMENT ABILITY - The proposal must provide a narrative description of company management experience on projects with scientific and technical tasks similar to those required in the Statement of Work. This description should clearly show previous performance at meeting instrument performance, cost and schedule goals on these projects. The proposer should also provide a narrative description of the Transition Plan that clearly shows how the company plans to establish adequate facilities, equipment, program management, and controls to accomplish the tasks in the Statement of Work, within the transition period, in a manner that minimizes the impact to the work schedules. Major interrelationships, along with a description of how transition delays are mitigated, should be explained in the Transition Plan. The proposal should demonstrate the management controls, procedures and methods necessary to assure

accomplishment of procurement, subcontracting, status reporting, security, and personnel staffing.

FACILITIES - The proposal must provide a description of the facilities and equipment that they anticipate using in order to satisfy the contract requirements. The offeror should identify whether the equipment and facilities is government owned, corporately owned or the property of a team member. This includes EMI/EMC facilities, electronic fabrication facilities, computer equipment, communication equipment, and CAD/CAM facilities. The offeror should also describe specific instances in previous contracts where corporate resources were used or new corporate resources were obtained to satisfy program requirements. It is essential for the offeror to demonstrate that it will be capable of obtaining a TOP SECRET facility clearance and SECRET storage capabilities.

PAST PERFORMANCE INFORMATION -

(a) Offerors shall submit the following information as part of their proposal. *(Offerors are encouraged to submit the information prior to other parts of the proposal to assist the government in reducing the length of the evaluation period.)* List the last five contracts or subcontracts completed by the offeror or predecessor companies during the past two years for services similar in nature to this requirement. Include in the five any current contracts or subcontracts for similar services that were awarded at least one year prior to the date of this solicitation. Offerors that have no similar previous or current contracts should provide the requested information for proposed subcontractors that will perform major or critical aspects of the requirement or for the proposed project manager or key personnel responsible for major or critical aspects of the requirement.

1. Name of contracting organization.
2. Contract number
3. Contract type
4. Total contract value
5. Description of the contract work
6. Contracting officer and telephone number
7. Contracting officer's representative, program manager, or similar official and telephone number

(b) Offerors shall contact the contracting organizations identified pursuant to paragraph (a) as soon as possible and request them to send past performance information on the identified contracts to the address in Block 7 of the face page of this solicitation. The past performance report which is available electronically in full text at http://heron.nrl.navy.mil/contracts/home.htm is to be provided to the contracting organization for this purpose. If the contracting organization has already collected past performance information on the contract pursuant to FAR Subpart 42.15, the format used to collect the information may be used instead of the past performance report.

(c) Offerors may include in their proposals specific information relating to problems encountered in performing the identified contracts and any corrective actions by the offeror. Offerors should not provide general information on their performance on the identified contracts as this will be obtained from the contracting organizations.

## L-14 VOLUME II - BUSINESS PROPOSAL

REQUIRED COPIES: 1 ORIGINAL AND 3 COPIES

(1) COST PROPOSAL

(a) The offeror shall submit a business proposal that includes a cost proposal with supporting information for each cost element consistent with offeror's cost accounting system. The supporting breakdown should include such elements as materials, direct labor, indirect cost, and other costs such as travel. The offeror shall provide exhibits as necessary to substantiate each cost element. Should rates be used in the proposal, which are not DCAA approved, the offeror shall provide complete documentation and the rationale for their use at time of proposal submission. However, offerors are advised to use actual labor rates of proposed personnel as the basis for estimating labor costs when practicable.

(b) It is requested that offerors provide one copy of their cost proposal on a CD Rom using software that is compatible with Microsoft Excel 2000. Any supporting documentation that an offeror wishes to submit as part of their cost proposal should be submitted in a PDF format.

(c) The following travel And material estimates are for evaluation purposes only. The government estimates the travel costs for this effort to be $200,000 per year and the material costs to be $5,000,000 per year. All offers will be evaluated using the estimated amounts provided above plus applicable indirect costs.

(2) SMALL BUSINESS PARTICIPATION

(a) In addition to complying with the clause at FAR 52.219-9, Small Business Subcontracting Plan (JAN 2002) with its Alternate II (OCT 2001), proposals must include information to permit evaluation of the extent of participation of small businesses and historical black colleges or universities and minority institutions in performance of the contract. Participation to be identified may be in the form of a joint venture, teaming arrangement, or subcontract. Small business concerns that are not required by FAR 52.219-9 to submit a subcontracting plan must indicate the extent to which proposed joint ventures, teaming arrangements, or subcontracts are with historically black colleges or universities and minority institutions. Information provided should include the extent of participation of such firms in terms of the value of the total acquisition and the complexity and variety of the work such firms are to perform.

(b) Proposals must also include information to permit evaluation of the extent of participation of small disadvantaged business concerns in performance of the contract. See the provision at FAR 52.219-24, Small Disadvantaged Business Participation Program--Targets (OCT 2000), and the clause at 52.219-25, Small Disadvantaged Business Participation Program--Disadvantaged Status and Reporting (OCT 1999). Any targets will be incorporated into and become part of any resulting contract. Information provided should include the extent of participation of such firms in terms of the value of the total acquisition and the complexity and variety of the work such firms are to perform.

# SECTION M
# EVALUATION FACTORS FOR AWARD

## M-1 EVALUATION

Award will be made to that offeror whose proposal is determined to be the best value to the Government, proposed cost and other factors considered. The Government reserves the right to make award to other than the low offeror. The technical considerations are more important than the cost factor. The closer the technical scores of the various proposals are to one another, the more important the cost considerations become. The Technical and Cost factors are each more important that the Small Business Participation factor.

## M-2 EVALUATION FACTORS FOR AWARD

Proposals will be evaluated in accordance with the following criteria. The technical factor is more important than the cost factor. The technical factors are listed in the following order of importance – (1) Personnel Qualifications, (2) Company Experience and Management Ability and Past Performance are of equal, but lesser importance than Personnel Qualifications and finally (3) Facilities is the least importance of the five technical subfactors.

**M-2-1**. TECHNICAL/MANAGEMENT

(1) PERSONNEL QUALIFICATIONS

The proposal will be evaluated on the offeror's demonstrated ability to provide personnel with: (1) the appropriate qualifications as set forth in Enclosure (1) of the Statement of Work; (2) actual relevant experience in the technical and scientific areas set forth in the Statement of Work; and (3) the ability of key personnel to obtain a Sensitive Compartmented Information (SCI) clearance prior to commencing work.

(2) COMPANY EXPERIENCE

The proposal will be evaluated on the offeror's demonstrated company experience in performing projects requiring scientific and technical effort which is closely similar or related to the scientific and technical efforts set forth in the Statement of Work.

(3) MANAGEMENT ABILITY

The proposal will be evaluated on the offeror's demonstrated management ability and success in managing projects of similar complexity and duration as that set forth in the Statement of Work. The proposal will also be evaluated on the offeror's strategy for assuring a smooth and effective transition between the offeror's organization and personnel and the incumbent contractor's personnel into the ongoing system development, maintenance, and operations efforts. The proposal will be evaluated on the offeror's ability to complete all the transition activities within 90 days after contract award.

(4) FACILITIES

The proposal will be evaluated on the availability of current state-of-the-art facilities and equipment. The offeror will be evaluated on whether these facilities and equipment are corporately owned, leases, or the property of a team member. The offeror will be evaluated on their ability to either use or acquire new resources to satisfy program requirements. Finally, the proposal will also be evaluated on the offeror's ability to obtain a TOP SECRET facility clearance and SECRET storage capabilities.

(5) PAST PERFORMANCE

Past performance will be evaluated on the basis of the quality of the work performed, timeliness of performance, cost control, and business relations. The evaluation will be based on the information provided pursuant to Section L and other sources if available. The evaluation will take into account past performance information regarding predecessor companies, subcontractors that will perform major or critical aspects of the requirement, or the proposed project manager or key personnel responsible for major or critical aspects of the requirement. Offerors that have no relevant performance history or for which past performance information is not available will not be evaluated favorably or unfavorably on past performance. The government may begin proposal evaluation prior to receipt of past performance information. If, after completion of proposal evaluation except evaluation of past performance, the contracting officer determines that evaluation of past performance will not affect the outcome of competitive selection, the contracting officer may waive its evaluation in accordance with FAR 15.304(c)(3)(iv).

**M-2-2** COST TO THE GOVERNMENT

Proposed estimated cost to the Government. The Government may adjust the proposed cost for purposes of evaluation based upon an evaluation of cost realism. Cost Realism means that the costs in an offeror's proposal are realistic for the work to be performed; reflect a clear understanding of the requirements; and are consistent with the various elements of the offeror's technical proposal. The cost realism evaluation includes an analysis of the adequacy of the hours, labor mix, and other direct costs to perform the work as proposed in the technical proposal as well as the proposed labor and indirect rates. It also includes evaluation of the likelihood that the risks inherent in the offeror's technical approach will result in higher actual costs than anticipated.

**M-2-3** SMALL BUSINESS PARTICIPATION

(a) The extent of participation of small businesses and historically black colleges or universities and minority institutions in performance of the contract will be evaluated on the basis of the proposed extent of participation of such firms in terms of the value of the total acquisition and the complexity and variety of the work such firms are to perform.
(b) The extent of participation of small disadvantaged business concerns in performance of the contract will be evaluated on the basis of the proposed extent of participation of such firms in terms of the value of the total acquisition and the complexity and variety of the work such firms are to perform.

## M-3 FAR 52.217-5 - EVALUATION OF OPTIONS (JUL 1990)

Except when it is determined in accordance with FAR 17.206(b) not to be in the Government's best interests, the Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. Evaluation of options will not obligate the Government to exercise the option(s).

# STATEMENT OF WORK

## 1.0 INTRODUCTION

The Naval Center for Space Technology (NCST), located at the U.S. Naval Research Laboratory (NRL) in Washington, DC, is the designated lead laboratory for Navy space programs. NCST has the mission to "preserve and enhance a strong space technology base and provide expert capabilities in the development and acquisition of space systems which support Naval missions." The Space Systems Development Department (SSDD), a department within NCST, has the primary responsibility to develop space systems, spacecraft payloads, tactical communications, and aerospace systems; and to actively pursue emerging technologies in an effort to advance space, tactical and aerospace system development.

The SSDD defines system requirements based on overall mission objectives; develops alternative system architectures; designs and develops systems and subsystems; and implements technologies to achieve optimized, operational systems. This Statement of Work (SOW) defines the technical and managerial tasks required to accomplish selected activities for present and future space, communications, and avionics programs of the SSDD. The SSDD has several on-going programs at various stages in the development process. In addition, the SSDD is currently involved in conceptual or design phases of a number of other advanced concepts projects that will be included in future generations of space technologies, tactical communications, and avionics systems.

## 1.1 SCOPE

This SOW defines the managerial and technical tasks to be performed by the selected Technical and Engineering Support (TES) contractor. The scope of this SOW includes the areas of program management, documentation, systems engineering, space and aerospace systems, ground systems, technology transfer, facilities support, quality control, power system development, Radio Frequency (RF) support, integration and test activities, computer networking and system administration, equipment maintenance and advanced concept exploration and associated efforts required by SSDD to complete current programs and to support future SSDD projects and programs.

The selected TES contractor shall direct, perform and report on all tasks and activities covered by this SOW. Unless otherwise specified herein, the contractor shall furnish/procure all the necessary resources and supplies to accomplish the managerial and technical efforts described in this SOW. (Note that some of the

tasking under the effort may be performed at the Sensitive Compartmented Information (SCI) Level. Refer to the accompanying DD254 for more detail.)

## 2.0 APPLICABLE DOCUMENTS

The contractor shall comply with the following specifications, standards, and publications, as they apply to each TES task. The listed technical specifications, standards, and documents contained in this section are incorporated by reference to be part of this contract. The most current version(s) of the listed specifications should be used, as they come available during the course of the contract. However, in the event of conflict between the referenced documents and this SOW, the requirements of the SOW shall apply.

### 2.1 SSDD Technical Specifications and Documents

| Document Number | Description |
|---|---|
| **STC-D-001** | **Spacecraft Product Assurance Program Plan** |
| **STC-D-002** | **Naval Center for Space Technology (NCST) Parts Program Requirements and Guidelines** |
| **STC-D-010** | **Preferred Parts List** |
| **SSD-D-059** | **NRL/SSDD Monthly Status Report Procedure** |
| **SSD-D-061** | **Procedure for the Preparation of Program Plans** |
| **SSD-D-072** | **Naval Center for Space Technology Document Style Guide** |
| **SSD-D-AS139** | **Qualified Parts List** |
| **SSD-D-AS214** | **Parts Program Requirements and Guidelines** |
| **SSD-D-AS303** | **Quality Assurance Program Requirements and Guidelines** |
| **SSD-D-AS322** | **Test Methods and Controls** |

(The above documents will be available for viewing in the Contracting Office, Code 3200, Naval Research Laboratory, 4555 Overlook Ave, SW, Washington, DC 20375-5326.) After contract award the documents can be obtained from the designated Contracting Officer Representative (COR).

**2.2 Military/Department of Defense Specifications and Standards**

| Document Number | Description |
|---|---|
| DOD-E-8983 | Electronic Equipment, Aerospace, Extended Space Environment, General Specifications for |
| DOD-HDBK-343 | Design, Construction, and Testing Requirements for One of a Kind Space Equipment |
| MIL-HDBK-217F | Reliability Prediction of Electronic Equipment |
| MIL-STD-1686C | Electrostatic Discharge Control Handbook for Protection of Electrical and Electronic Parts, Assemblies and Equipment |
| IPC-D275 or IPC-2221 | Printed Wiring for Electronic Equipment |
| MIL-STD-461E | Electromagnetic Emission Susceptibility Requirements for the Control of Electromagnetic Interference |
| MIL-HDBK-881 | Work Breakdown Structures for Defense Material Items |
| MIL-STD-1540 | Requirements for Space Vehicles |

(Unless otherwise indicated, copies of federal and military specifications, standards and handbooks are available from the Standardization Documents Order Desk, BLDG. 4D, 700 Robbins Ave., Philadelphia, PA 19111-5094, telephone number (215) 697-3321.)

**2.3. Non-government Documents**

**2.3.1. American National Standards Institute (ANSI)**
(Applications for copies should be addressed to the American National Standards Institute, 1430 Broadway, New York, NY 10018.)

| Document Number | Description |
|---|---|
| ANSI Y32.16 | Referrence Designations for Electrical and Electronic Parts and Equipment |
| ANSI Y14.5M | Dimentioning and Tolerancing |
| ANSI Y32.2 | Graphic Symbols for Electrical and Electronic Diagrams |

**2.3.2. Electronic Industries Association (EIA)**
(Application for copies should be addressed to Electronic Industries Association, 2001 Pennsylvania Ave., NW, Washington, DC 20006.)

| Document Number | Description |
|---|---|
| **RS-232** | **Interface Between Terminal Equipment and Data Circuit Terminating Equipment Employing Serial Binary Data Interchange** |
| **RS-422** | **Electrical Characteristics of Balanced Voltage Digital Interface Circuits** |
| **RS-423** | **Electrical Characteristics of Unbalanced Voltage Digital Interface Circuits** |
| **EIA/IS-649** | **Configuration Management** |
| **EIA/IS-632** | **Systems Engineering** |

**2.3.3. Institute of Electrical and Electronic Engineers (IEEE)**

| Document Number | Description |
|---|---|
| **IEEE 488** | **IEEE Standard Digital Interface for Programmable Instrumentation** |
| **IEEE 802.3** | **Information Processing Systems - Local Area Networks - Part 3: Carrier Sense Multiple Access with Collision Detection** |
| **IEEE 1014** | **Standard for a Versatile Backplane Bus: VMEbus** |
| **IEEE 1394** | **High Performance Serial Bus** |

(Applications for copies should be addressed to the Institute of Electrical and Electronic Engineers Inc., 345 East 47th Street, New York, NY 10017.)

## 3.0 REQUIREMENTS

This section contains the detailed requirements for this effort. The contractor shall accomplish these requirements using the guidelines and direction established by the references in Section 2.0, Applicable Documents, unless these guidelines are modified by the Contracting Officer's Representative (COR). No proprietary hardware or software shall be used for any task within this contract without prior written notification and approval of the COR.

### 3.1 Contract Phase-In Period

The contractor shall phase its organization into the ongoing system development efforts being performed by the incumbent contractor within 90 days after contract award. During this period, the contractor must establish a trained and experienced work force, acquire adequate facilities and equipment, develop adequate procedures, and establish the program management controls and procedures required for accomplishing the tasks in this contract. Additionally, the contractor's personnel must become familiar with the on-going efforts being performed by the SSDD and be ready to assume the work at the end of the transition period.

The contractor shall designate a Program Manager or another individual from its organization, as the single point of contact responsible for coordinating all transition activities. This individual will schedule and execute the transition for the contractor. This individual will keep the COR informed of the progress of the transition and of any problems that arise. All communication between the successful contractor and the incumbent regarding the transition shall take place via the COR. Any transition problems that cannot be resolved will be referred to NRL's Contracting Officer (CO).

### 3.2 Program Management

The contractor shall provide the program management, control, and reporting functions necessary to manage and direct the accomplishment of the efforts required under this SOW.

The contractor shall designate a Program Manager (PM), who shall have overall responsibility for the program and who shall act as the single point of contact with NRL for all matters pertaining to this SOW. The Program Manager shall keep the COR informed of the status of the technical and managerial efforts and expenditures on the contract by means of written monthly reports, by telephone conversations, and by meetings at the contractor's facility and at NRL.

The Program Manager shall have the authority to commit corporate resources to ensure the successful completion of authorized tasks. The Program Manager shall keep the COR informed as to his/her corporate organizational matters or changes by providing current organizational charts and other pertinent documents. This information shall be reported under the appropriate CDRL item.

### 3.2.1 Program Control and Status Reporting

The contractor shall establish and maintain a management system for control and reporting of the program and contract efforts including cost, schedule, and technical performance for the life of the contract. The management system shall be designed to assess technical achievement, to measure progress, and to determine and accrue costs accurately for each assigned task; and shall employ a Contract Work Breakdown Structure (CWBS) as described in MIL-STD-881. The system shall be capable of comparing actual versus planned performance and cost, and shall clearly illustrate program status. There shall be a direct correlation between the CWBS employed by the SSDD for its reporting purposes and the CWBS developed by the contractor. Program, technical, cost and schedule status shall be reported at the task level and summarized at the overall program level within each report. The CWBS shall be submitted under the appropriate CDRL item.

### 3.2.2 Monthly Status Reporting

The contractor shall provide SSDD with a Monthly Status Reporting (MSR) in accordance with SSD-D-059, Monthly Status Report Procedure. The following paragraphs detail the requirements that the contractor shall include in the MSR. The MSRs shall be submitted under the appropriate CDRL. The contractor shall provide SSDD with a Contract Funding Status Report (CFSR) monthly. The CFSR shall be submitted under the appropriate CDRL. The contractor shall schedule a MSR Meeting with the COR to go over the contents of the MSR.

#### 3.2.2.1 Contract Summary

The contractor shall provide highlights of significant actions that occurred during the reporting period relative to contract performance. Significant actions include any that will impact, or have impacted, the projected performance, cost or schedule of the SE Program effort.

The contractor shall provide information on deliveries, meetings and on scheduled versus actual work performed. Actual and projected slippages shall be reported along with their actual and projected impact on overall contract performance. The status of GFE, materials, data items, travel and subcontracts

must also be reported. The resultant Milestone Chart shall be submitted under the appropriate CDRL item.

The contractor shall provide a monthly total of all on-site/off-site labor hours (which shall include subcontractor labor hours) broken down by task assignment. This shall be submitted under the appropriate CDRL.

**3.2.2.2 GFE/Subcontracting**

As required by Government regulations, the contractor shall report on the status of materials, Government Furnished Equipment (GFE), and subcontracting status. The contractor shall include an update of any previously reported unresolved problems or issues. This report shall be submitted under the appropriate CDRL Item. The contractor shall maintain an accurate inventory of all GFE. A complete listing describing all GFE and its location shall be prepared and made available to the COR on an as needed basis. The report shall be delivered to the COR on a quarterly basis as required under the appropriate CDRL.

**3.2.2.3 Financial Management**

The contractor shall provide the management resources required to maintain the financial reporting system and assure delivery of contractual items.

The contractor shall provide information on contract financial and staffing levels. The cost data shall be reported in accordance with Department of Defense (DoD) Data Item Description (DID), DI-MGMT-81467, Cost/Schedule Status Report (C/SSR), tailored to the SSDD requirements to include current month, as well as cumulative month cost data, and manpower usage reporting. The cost data shall be correlated to the CWBS elements. A narrative explanation shall accompany the charts. This data shall be submitted with the MSR under the appropriate CDRL item.

The contractor shall submit billing vouchers to DFAS by program ACRN, as specified in Section G.

**3.2.2.4 Subcontract Management**

The contractor shall provide the technical and financial oversight of subcontracts to ensure success of the SSDD projects being supported.

**3.2.3 Computer Networking and System Management**

The contractor shall provide both hardware and software engineering expertise to SSDD to enable it to operate and maintain an extensive and sophisticated

computer network composed of LANS (Local Area Networks), WANS (Wide Area Networks) and wireless LANS/WANS. These networks will operate at a variety of classification levels and may require either Type I and/or Type III encryption devices. The contractor shall maintain and operate the variety of protocols used by SSDD, which includes, but is not limited to, TCP/IP, FDDI, DECnet, DISnet, APPLETALK, HTTP, IPSEC and ATM. Also included in the SSDD network hardware are a variety of diskless workstations manufactured by Network Computing Devices (NCD).

The contractor shall support the design, documentation, installation, and maintenance of systems for use in DISNet. This shall include switch and router configuration, installation of interfaces to cryptography equipment, support for EMASS and Sun HPC installation, configuration and system management, configuration and system management for DISNet hosts, installation of cable, fiber, and devices for communication circuits. The contractor shall maintain technical drawings and documentation for the entire network.

Due to the nature of the business conducted by SSDD a variety of networks are operated. As such, personnel provided to support this effort are to be familiar with all aspects of classified network operation and the protocols to which they must adhere.

The contractor shall provide personnel capable of designing new or enhancing existing networks. The contractor shall also provide personnel capable of servicing, installing, troubleshooting, and maintaining all of the SSDD network hardware and software.

The contractor shall provide personnel capable of executing systems management functions for a large Open FMS DSSI cluster. This system is extremely sophisticated. Due to network arrangements, a significant degree of network management skills is required as well. The contractor shall have familiarity with DEC Alpha hardware architecture, OpenVMS, and be capable of trouble-shooting disk and subsystem problems.

The contractor shall provide expertise and support to assist SSDD in complying with NRL, Navy and DoD information technology (IT) security protocols and procedures.

### 3.2.4 Facilities Operation and Maintenance

The contractor shall share the responsibility for the operation and maintenance of a 20,000 square foot building, T970, located at NRL. The building houses administrative offices, computer hardware rooms, electronic labs, EEE parts storage and office space for personnel, who provide support to the SSDD.

Support will also be provided for Building A59 (in selective areas) and for a two-floor facility in Building 125 (approximately 4,500 square feet), as well as a secure single-floor facility in Building 55 (approximately 1400 square feet). In most cases, the cleaning and maintenance will be in the Sensitive Compartmented Information Facility (SCIF) Areas.

As directed, the contractor shall purchase material, equipment, and procure other facilities to support the execution of SOW tasks.

### 3.2.5 Facilities Safety Program

The contractor shall assist SSDD in its on-going safety program, which entails taking a proactive approach towards providing a safe and healthy workplace. The contractor shall provide expertise and support with respect to: compliance with government safety provisions, on-site identification and elimination of safety and environmental hazards, facilitating the correction of safety and environmental deficiencies reported by building monitors and/or identified during the annual NRL Safety and Environmental Inspection(s), and to otherwise provide supplementary safety training and educational support, as needed.

### 3.3 Documentation

As hardware and software is designed, developed, and modified under this contract, the contractor shall compile a level two technical data package that completely describes the article as described in MIL-T-31000, General Specification for Technical Data packages. All documentation developed under this contract shall be delivered in both hard copy and on electronic media approved by the COR.

The contractor shall also maintain the configuration of all data and drawings throughout the design process and hold periodic reviews to ensure that all parties involved in the design process have an opportunity to comment and review the documentation package. The following paragraphs describe and illustrate the specific duties that are included as part of this requirement.

### 3.3.1 CAD/CAM Support (Facility Operation)

As directed by the COR, the contractor shall provide computer-aided design and drafting support. The contractor shall provide trained personnel capable of conducting electrical and mechanical design and drafting. These personnel shall be proficient with the Auto CAD, Mentor CAD/CAM, Mechanical Desktop, Inventor and Solid Works, or other pertinent hardware and software. The design and drafting support shall include printed circuit board layouts, circuit card assembly drawings, schematics, part lists, mechanical assembly drawings and

other design documents. The contractor shall provide training, as required, to end users and other government selected users. The contractor shall be responsible for providing the necessary computer hardware compatible with current SSDD systems to provide an adequate level of support for each assigned project.

Unless otherwise directed by the COR, design efforts under this task shall be conducted to conform with applicable MIL-Standards. Specifically, printed circuit board (or printed wiring board) layout/design shall comply with MIL-STD-275. The documentation provided by the contractor shall comply with MIL-STD-100 and dimensioning shall comply with ANSI Y14.5M. Drawing packages under this task will be generated to MIL-T-31000 "Development Level" standards. These drawing packages shall be provided in accordance with Exhibit A. Contract Data Requirements List (CDRLs).

**3.3.2 Graphics and Illustrations**

The contractor shall prepare presentation-quality graphics and illustrations in black and white, as well as color, depicting satellites, antennas, ground stations, test equipment, and various other aspects of space, communication and tracking programs. The contractor shall also have the capability to digitally scan photographs and drawings for transfer into an electronic format to be used in documents and presentations. These graphics shall be provided in accordance with the appropriate CDRL Item.

**3.3.3 Technical Documentation Generation**

All technical documentation shall be prepared in accordance with SSD-D-072, Naval Center for Space Technology Document Style Guide.

**3.3.3.1 System Development Specifications**

The contractor shall update and maintain the existing system development specifications. In addition, the contractor shall prepare system development specifications for advanced development programs. Specifications shall be submitted under the appropriate CDRL Item. The specifications shall be revised to reflect changes to the systems as the systems evolve as approved through the SSDD system design process. The revised specifications shall be submitted thirty (30) days after the associated system design reviews.

**3.3.3.2 Interface Control Documents**

The contractor shall update and maintain external and internal Interface Control Documents (ICD), which specify interface requirements for integration of various

systems. The documents shall reflect the results of the applicable design reviews.

The contractor shall update and maintain Interface Wire Lists (IWL) for individual systems to enable integration and test planning and performance. The IWLs shall define the inter-connections of subsystem/equipment with each other and other systems, and shall be referenced to the ICDs to assure conformance with specification requirements. IWLs and ICDs shall be submitted under the appropriate CDRL Item.

**3.3.3.3 Other System Technical Documentation**

The contractor shall prepare, update, and maintain other system technical documentation. A representative sample of these documents would include:

- Technical Reports. Examples of this type of system documentation are system analysis reports, system requirements allocation reports, system test reports, and document lists.

- Specification Trees. This includes the preparation and maintenance of all specification trees related to the program documentation task.

- System Design Review Reports. These reports shall document the system design review results, action item assignments, and action item resolutions.

- System Drawing Packages. These include the drawings, procedures, materials, and processes documents and lists that define a specific system design.

- Requirements Tracking Packages. These include packages that trace system specification to design requirements. This tracking will be performed to ensure that "requirements creep" does not artificially increase the cost of new systems.

- Concept of Operations Documents. These documents include all pertinent information on the theory of operation of a system, how it will be operated, and how it will be maintained.

### 3.3.4 Configuration Management

SECNAV Instruction 5000.2B (Implementation Of Mandatory Procedures For Major And Non-Major Defense Acquisition Programs And Major And Non-Major Information Technology Acquisition Programs) policy, defines a systematic means for documenting and controlling the configuration of material items in terms of their physical and functional characteristics. The contractor shall perform the CM efforts necessary to maintain control of the configuration of all the documentation, data, software, and other materials produced under this contract.

### 3.3.5 Data Management

Data Management (DM) is defined in SECNAVINST 5000.2B (Implementation Of Mandatory Procedures For Major And Non-Major Defense Acquisition Programs And Major And Non-Major Information Technology Acquisition Programs), and delineates the tools necessary for the identification, coordination, collation, validation, and integration of technical data throughout the life cycle of a project. The contractor shall perform the data management efforts necessary to procure, produce, support, operate, and maintain the configuration items produced under this contract.

### 3.3.6 Technical Reviews

The contractor shall be responsible for conducting all the technical reviews and audits for the efforts described within this contract. The specific reviews that will occur in any given program or project will vary. A representative sample of typical reviews includes:

- Systems Requirements Review (SRR)
- System Design Review (SDR)
- Software Specification Review (SSR)
- Preliminary Design Review (PDR)
- Critical Design Review (CDR)
- Technical Interchange Meetings.

The contractor shall videotape selected reviews and submit the videotape under the appropriate CDRL item.

### 3.3.7 Web Page Development

The contractor shall provide the required technical expertise to develop web pages for various NCST programs on an as needed basis. The contractor will provide personnel with knowledge of web development tools such as Microsoft FrontPage, Macromedia Flash and Dreamweaver as well as a working familiarity with a variety of programming languages including PERL/CGI and Java Script.

### 3.3.8 Project Plans/Schedules

The contractor shall generate and maintain schedules for each task assignment in both GANTT and PERT format, or other appropriately designated scheduling format. Typically, NRL sponsors require that NRL program teams deliver all schedules in Microsoft Project format. The contractor shall ensure that adequate resources are assigned to the various tasks to report on any deficiencies. These schedules shall be submitted under the appropriate CDRL item.

### 3.3.9 On-Line Resource Service

The contractor shall provide an On-Line resource service that will allow users to access to technical specifications, project schedules, reference materials and other resource documents. This On-Line resource would "digitize" a documentation center or technical library.

### 3.4. Systems Engineering

The contractor shall provide a systems engineering team to plan, coordinate, and integrate systems engineering, design analysis, risk mitigation, and other engineering related efforts as required and directed by the COR.

### 3.4.1. System Definition

The contractor shall identify and characterize (in terms of performance, weight, internal/external interfaces, specifications, etc.) all major components of a system design. This shall include: mechanical structure, command and control, experiments, electrical power generation/distribution, attitude control, reaction control, ordnance, data handling and distribution, communication, launch adapter, orbital transfer module, ground/space component distribution, and other system related components. This shall be done on the basis of an explicit, documented evaluation of the tradeoffs among alternatives involving the degree

of assurance of achieving all program objectives (including performance and reliability/lifetime) and system acquisition cost.

### 3.4.2. System Analyses and Planning

The contractor shall analyze current and planned system architectural concepts. Plans, implementation, and operational analyses of current and future uses and shortfalls shall be identified. The contractor shall also identify technologies that should be pursued to improve the system's architectural planning process. Also, the contractor shall assist in the development and maintenance of applicable concept plans, white papers, Concept of Operations (CONOPS) and standard operating procedures.

### 3.4.3. Technical Assessments

The contractor shall prepare technical assessments and engineering analyses to identify, recommend, and implement resolutions of critical design or performance deficiencies. The contractor shall provide system level integration test plans and procedures; identify and report deficiencies; support hardware and software design reviews; identify, analyze or develop decision support, simulation or modeling support activities; and provide short-term engineering analyses and quick reaction studies. The contractor shall also assist in system survivability analyses and in analyzing and resolving protocol issues. These analyses shall be submitted under the appropriate CDRL item.

### 3.4.4. Independent Verification and Validation (IV&V)

The contractor shall participate in the Independent Verification and Validation (IV&V) of space and ground SSDD system hardware and software. The IV&V efforts will ensure that the requirements levied on the system have been fully satisfied by the design and that no additional functionality has crept into the system. The IV&V effort will focus on all areas of the design, including: requirements traceability, maintainability, testability, interface analysis, and stress testing. Additionally, the IV&V efforts will validate system and subsystem performance and functionality. The results of these IV&V efforts shall be documented and submitted under the appropriate CDRL item.

## 3.5 Space Systems

The contractor shall provide the engineering resources necessary to accomplish the following tasks related to the design, development, fabrication, integration and test of SSDD space systems.

### 3.5.1 System Design and Testing

The contractor shall design, fabricate, test and document advanced NRL spacecraft launch devices and ground systems to satisfy the requirements generated under this contract. Both system and subsystems designs shall be in accordance with all system/subsystem performance specifications. The contractor shall develop breadboards and simulations to prove the feasibility of advanced concepts and to reduce the risk of developing these new system architectures.

The contractor shall explore new methods and concepts to test and characterize the performance of SSDD systems. These testing methods shall emphasize a more thorough characterization of the performance of the system, detection of anomalies, and a reduction in the wall-clock time required to complete the testing.

The contractor shall provide software and firmware resources necessary for the development of software used in satellite systems and satellite ground. This shall include software that will be used for mission support, tool development, real-time applications, automatic test equipment, simulations and modeling, databases, and other related applications. The contractor shall design, develop, document, and maintain this software at NRL and its field sites or at the contractor's facilities. The contractor shall integrate all software developed and shall use and maintain the latest software configurations on all test and development equipment unless otherwise directed in writing by the COR.

The contractor shall provide, as required, software engineering expertise for the design and architecture of software systems for real-time hardware command and control, for the automated capture of control, operational and/or performance data, and the off-line evaluation, sort and display of data and results.

The contractor shall provide as required, technical and/or analytical support for the integration and testing of software systems and of combined software and hardware systems. The technical support will range from code walkthrough support, generation and evaluation of software metrics, evaluation of software and software/hardware implemented algorithms, and performance evaluation of algorithms on command, control and operational data.

### 3.5.2 Spacecraft Command and Telemetry Systems

The contractor shall provide the engineering resources to design, fabricate, integrate, document, and test Command and Telemetry Systems (C&T) for NRL space systems. Each C&T system development effort shall typically be accomplished in the following three phases:

- Phase I, Brassboard Development, shall result in delivery to NRL of one fully redundant brassboard unit, its associated design documentation and supporting analysis, and test reports. This phase shall also include development of the factory test equipment (FTE) required to test the brassboard units, and the subsequent qualification and flight units. Reports shall be submitted under the appropriate CDRL item.

- Phase II, Qualification Development, shall result in delivery of one fully redundant qualification unit that has been subjected to and passed the qualification tests, plus the associated design documentation, analysis reports, and test procedures and reports. Reports shall be submitted under the appropriate CDRL item.

- Phase III, Flight Production, shall result in delivery of one fully redundant flight unit that has been subjected to and passed the NRL-approved Acceptance Test Procedures. Reports shall be submitted under the appropriate CDRL item.

All C&T systems developed under this task shall conform with the NRL document STC-D-001 Spacecraft Product Assurance Program Plan.

### 3.5.3 Electrical Power Subsystem Development (EPS)

The contractor shall provide the personnel, material, and facilities necessary to support the EPS tasks defined within the following paragraphs. The contractor shall provide reports and documentation with respect to the following subtasks in accordance with the appropriate CDRL item.

#### 3.5.3.1 Electrical Power System/Subsystems

The contractor shall provide the engineering resources required to design, fabricate, integrate, document, test, monitor and control circuits that distribute electric power within the satellite.

The contractor shall provide a detailed reliability evaluation over the complete range of thermal vacuum, launch vibration, and flight environments for all circuits. These devices shall be subsequently used for qualification testing in more severe environmental conditions than expected in the actual flight environment. This includes the integration and test of the EPS devices with a flight-configured satellite.

### 3.5.3.2 Operation of Battery Test and Engineering Facility

The contractor shall maintain and operate the satellite battery test and evaluation facility located at NRL. This effort shall include investigating specialized battery technologies and testing nickel cadmium, nickel hydrogen, and other types of batteries intended for satellite application. The contractor shall conduct life cycle and other types of tests, utilizing NRL furnished equipment. Battery performance data shall be recorded and periodically summarized. The contractor shall also design test equipment and fixtures for specific battery applications. This data shall be submitted under the appropriate CDRL.

The contractor shall provide day-to-day maintenance of the battery test facility, located at NRL, and coordinate changes and/or enhancements to the facility and its operation.

### 3.5.3.3 Harness Design

The contractor shall design, assemble, and test wire harness assemblies, select and integrate connectors, and provide components for the EPS. The contractor shall be responsible for the quality assurance and screening of vendor-produced connectors, cables, and components.

The contractor shall produce engineering documentation, submit reports during environmental and integration testing, and shall assist in the establishment of test criteria to comply with MIL-STD-461. These reports shall be submitted under the appropriate CDRL.

### 3.5.3.4 Experiment/Payload Support

The contractor shall design, fabricate, test and document technical and experimental scientific and defense-related payloads, as part of the NRL team.

The contractor shall bring necessary expertise to bear with respect to specific subsystem development, as directed by the Government.

For example, the contractor shall design, fabricate, test and document experimental power systems. These power systems shall incorporate the latest technological advancements in the area of satellite power. The contractor shall then assist in the integration of these experiments/payloads into the host satellite. The contractor shall also provide the technical resources to collect and analyze the data obtained from the experiment.

### 3.5.4 Attitude Control Systems

The contractor shall provide the engineering resources to design, fabricate, integrate, document, and test Attitude Control Electronics (ACE) for NRL space systems. Each ACE development effort shall typically be accomplished in the following three phases:

- Phase I, Brassboard Development, shall result in delivery of one fully redundant brassboard unit, its associated design documentation and supporting analysis, and test reports. This phase shall also include development of the factory test equipment (FTE) required to test the brassboard units, and the subsequent qualification and flight units. Reports shall be submitted under the appropriate CDRL item.

- Phase II, Qualification Development, shall result in delivery of one fully redundant qualification unit that has been subjected to and passed the qualification tests, plus the associated design documentation, analysis reports, and test procedures and reports. Reports shall be submitted under the appropriate CDRL item.

- Phase III, Flight Production, shall result in delivery of one fully redundant flight unit that has been subjected to and passed the Acceptance Test Procedures. Reports shall be submitted under the appropriate CDRL item.

All ACE systems developed under this task shall conform with the NRL document STC-D-001, Spacecraft Product Assurance Program Plan.

### 3.5.5 Reaction Control Systems

The contractor shall provide the engineering resources to design, fabricate, integrate, document, and test Reaction Control Electronics (RCE) for NRL space systems. Each RCE development effort shall typically be accomplished in the following three phases:

- Phase I, Brassboard Development, shall result in delivery of one fully redundant brassboard unit, its associated design documentation and supporting analysis, and test reports. This phase shall also include development of the factory test equipment (FTE) required to test the brassboard units, and the subsequent qualification and flight units. Reports shall be submitted under the appropriate CDRL item.

- Phase II, Qualification Development, shall result in delivery of one fully redundant qualification unit that has been subjected to and passed the qualification tests, plus the associated design documentation, analysis reports, and test procedures and reports. Reports shall be submitted under the appropriate CDRL item.

- Phase III, Flight Production, shall result in delivery of one fully redundant flight unit that has been subjected to and passed the Acceptance Test Procedures. Reports shall be submitted under the appropriate CDRL item.

All RCE systems developed under this task shall conform with the NRL document STC-D-001, Spacecraft Product Assurance Program Plan.

### 3.5.6 Ordnance Control Systems

The Contractor shall provide the engineering resources to design, fabricate, integrate, document, and test Ordnance Control Systems (OCS) space systems. Each ordnance system development effort shall typically be accomplished in the following three phases:

- Phase I, Brassboard Development, shall result in delivery of one fully redundant brassboard unit, its associated design documentation and supporting analysis, and test reports. This phase shall also include development of the factory test equipment (FTE) required to test the brassboard units, and the subsequent qualification and flight units. Reports shall be submitted under the appropriate CDRL item.

- Phase II, Qualification Development, shall result in delivery of one fully redundant qualification unit that has been subjected to and passed the

qualification tests, plus the associated design documentation, analysis reports, and test procedures and reports. Reports shall be submitted under the appropriate CDRL item.

- Phase III, Flight Production, shall result in delivery of one fully redundant flight unit that has been subjected to and passed the Acceptance Test Procedures. Reports shall be submitted under the appropriate CDRL item.

All ordnance systems developed under this task shall conform with the NRL document STC-D-001 Spacecraft Product Assurance Program Plan.

**3.5.7 System Test Equipment**

The contractor shall provide the engineering resources to develop, enhance, and maintain NRL test resources.

**3.5.7.1 Test System Support**

The contractor shall maintain and enhance the hardware and software developed by NRL for testing space systems, subsystems and other related equipment. The contractor shall also provide the engineering resources to integrate the test equipment to NRL space systems and assist in the system test, characterization, and evaluation. The contractor shall also develop new equipment to test, characterize, and evaluate future NRL space systems, subsystems and other related equipment.

The contractor shall provide maintenance support for the NRL computer systems, used to design, test, or operate SSDD satellites or ground systems. This shall include providing support for systems' hardware, software, and network communications equipment. The contractor shall respond to maintenance requests and complete repairs in a timely manner, typically within a three hour period. The repair shall include the use of new or reconditioned parts necessary to restore or enhance existing hardware, software, and network communications equipment to proper working order.

The contractor shall calibrate all test equipment at the intervals recommended by the equipment manufacturer. The contractor shall maintain calibration logs on all test equipment. These logs shall be submitted under the appropriate CDRL item.

**3.5.7.2 Special Test Equipment Development/Maintenance**

The contractor shall provide support, test equipment, and material required to develop, enhance, maintain, and operate Special Test Fixtures (STF), developed for testing space systems and other related equipment. A representative sample of STFs includes:

- Data Link Data Compressor (DLDC)
- Bus Ear Mouth (BEM)
- Automated Range and Synchronization Test (ARAST)
- Pulse Timing Generator (PTG)
- Range and Synchronization Test Unit (RASTU)
- Range and Synchronization STF (R&S STF).

### 3.5.8. RF Support

The contractor shall design, develop, fabricate, assemble, test, integrate, and operate RF ground components for use with NRL space systems, commercial space systems, and related hardware/software.

#### 3.5.8.1 RF Space Flight Systems and Component Prototype Design, Test and Evaluation

The contractor shall, as directed, initiate the preliminary design of RF space flight systems and components. This detailed design activity shall include: (a) defining detailed electrical and mechanical interfaces, critical operational parameters, sizes, and weights; (b) building and testing breadboards and prototypes; (c) verification testing required to prove preliminary design concepts; (d) defining and acquiring long-lead materials; (e) initiating the prototype documentation effort, (f) defining functional, performance and qualification tests, and (g) presenting formal design results at a preliminary design review (PDR).

#### 3.5.8.2 RF Space Flight System and Component Development and Qualification

The contractor shall perform the final design and integration of flight RF subsystems and components. This activity shall include system validation to prove that the final design performs and interacts in a simulated space flight environment in accordance with design specifications. The contractor shall: (a) complete the prototype design and documentation effort, and (b) make a formal presentation of the design results and implementation at a Critical Design Review (CDR).

After NRL review and approval on design approaches, objectives, and specifications, the contractor shall initiate fabrication, test, and qualification of the RF space flight subsystems and components. The Contractor shall provide continuing engineering support to the developmental effort throughout the fabrication, test, and qualification phases to prove that the implemented design is feasible, sound, and cost-effective. The Contractor shall support the transition of the final RF subsystem and component designs to a NRL-selected industry source, if appropriate.

### 3.5.8.3 Radio Frequency/Electromagnetic Interference/Compatibility (RFI/EMI/EMC) Testing

The contractor shall conduct RFI/EMI testing of SSDD satellite and ground hardware. All RFI/EMI testing shall conform to MIL-STD-461. This analysis also shall include Electro Magnetic Compatibility (EMC) testing and analysis. The contractor shall also perform TEMPEST testing on various pieces of hardware and use appropriate Red/Black installation techniques where necessary to prevent unwanted emissions.

### 3.5.9 Optical Space Systems

The contractor shall provide the necessary skills and resources to conduct research associated with using lasers in satellite systems for various purposes, such as ranging, geo-positioning, communications, etc., to accurately determine precise performance characteristics for satellite-to-ground and satellite-to-satellite systems. Projects may draw heavily on other government experience in related areas. The contractor’s efforts shall include the study and development of techniques and approaches; development of terrestrial test-beds to replicate on-orbit systems; analysis of precision satellite positioning and calibration methods; investigation of Global Positioning System (GPS)-related performance and independent measurement techniques; field testing and verification of selected models and methods; analysis of field testing; reports on the results of field tests and comparisons with models; and recommendations.

The contractor’s support shall include initial research into possible techniques; design, development and proof-of-concept demonstrations; on-site data collection and experimental engineering functions to provide research data; optical test and analysis functions including laser emitter and detector characterization, receiver and transmitter design, build, test and evaluation, and similar electronic laboratory test functions; and automated test support functions. Experiments and exercises are to be conducted in CONUS and OUTUS.

Contractor support shall include experiment engineering, definition of resources and testing requirements/test goals, test site evaluations, collection site and

equipment planning activities, arrangement of logistics with US and foreign military and civilian agencies, equipment configuration and operation, data collection from land/sea/air platforms, documentation of collected data, analysis of collected data, and evaluation/correlation of collected data.

### 3.6 Ground Station Development

The contractor shall provide engineering support for ground station development. Ground Stations may be used for a variety of tasks ranging from UAV (Unmanned Air Vehicle) and UCAV (Unmanned Combat Air Vehicle) ground stations-to-remote, autonomous ground stations that provide mission planning, command and control to communication relays, data processing and dissemination. Engineering support efforts shall be focused on providing a high degree of automation that will require minimal manning for operations.

### 3.6.1 RF Ground System and Component Engineering

The contractor shall design, fabricate, and test RF ground station equipment capable of automatically controlling Commercial Off-The-Shelf (COTS) and modified off-the-shelf (MOTS) tracking antenna systems. The Contractor shall then integrate these systems into advanced ground stations and ensure that communications links are established to control NRL spacecraft and receive payload data. These ground subsystems and components shall interface with both existing and anticipated NRL digital data handling systems. The primary purpose of the ground subsystems and components will be to provide command and control of spacecraft. Secondary usage of the ground subsystems and components may include analytical data processing and distribution. The ground subsystem and components may operate at VHF, UHF, SHF, EHF, or other frequencies, depending upon the requirements of the spacecraft. Additionally, the contractor shall work in concert with NRL and other agencies to define and increase levels of autonomy in the daily operation of the ground subsystems and components.

### 3.6.2 Enclosure Development

The contractor shall provide the design, development and testing of enclosures that may be used to house mobile command and control centers or remote automated ground relay stations. Enclosure types include relocatable (moved in pieces), transportable (moved in total by ship or plane) and/or highly mobile (small, self-propelled) systems.

### 3.6.3 RF Ground System Operations and Support

The contractor shall support NRL's Satellite Tracking facility at Blossom Point (BP) Maryland, which provides development, engineering and operational support to a number of complex space systems for the Navy and other users. The Blossom Point Satellite Tracking Facility provides command, control, communications, network engineering and management, and operations and management support for low earth orbit, mid-earth orbit and geo-synchronous satellites. BP is active in all mission phases of a spacecraft and its associated ground system lifecycle, including development, launch, early on-orbit operations, mission data collection and asset retirement.

The contractor shall support the operation and maintenance of Transportable Ground Stations (TGS), as required.

### 3.6.4 Next Generation Tactical Communications

The contractor shall design, develop, test, and demonstrate advanced, state-of-the-art communications equipment that represents the next generation capabilities in tactical communications. The contractor shall conduct surveys and studies of the latest emerging technologies to determine their applicability to advanced communications programs. The contractor shall provide engineering support in developing prototypes that demonstrate the latest technology. Technologies suitable for the battlefield include systems such as cellular phones, Personal Communications Systems (PCS) data systems, and chaos theory-based waveforms.

### 3.6.5 Antenna Development

The contractor shall design, develop, test and demonstrate antennas based on new, advanced technologies. Types of antennas to be considered include antennas for individual Warfighters, antennas for mobile platforms (vehicle, ships, aircraft) antennas for satellites, and antennas for satellite ground stations. Frequency bands shall range from HF, VHF, UHF, L-Band, through Ku-band, Ka-Band and Q-Band. Technologies to be considered include whips, horns, dishes, and phased arrays. This includes the use of Ku- and Ka-Band antennas with Very Small Aperture Terminal (VSAT) systems. A primary application would entail providing the warfighter with connectivity to airborne relays.

## 3.7 Tactical Communications Systems

### 3.7.1 Fiber Optic Technologies

The contractor shall design and develop fiber optic technologies. The technologies shall be used to transfer data between various computer systems to reduce weight, space and power consummation, decrease susceptibility to EMI and to increase speed of data dissemination within a vehicle or platform.

### 3.7.2 Radio and Data Communication Systems and Subsystems

The contractor shall design, develop and test hardware and software for radio and data communication systems that will be incorporated into tactical platforms. The contractor shall design, develop and test RF and communications systems to support new waveforms and protocols. The contractor shall also redesign existing systems to reduce size, weight and power requirements. The contractor shall study and develop systems to increase capabilities or add new capabilities to existing platforms. The contractor shall also develop, design and test subsystems, such as transceivers on PCMCIA cards, for incorporation into laptops. The contractor shall design, develop and test miniaturization techniques and use emerging cellular communication technologies to enhance tactical communication capabilities.

### 3.7.3 VSAT Architectures and Terminal Development

The contractor shall study, develop and test VSAT systems and/or subsystems that support Fleet and battlefield communications. Higher frequency bands such as Ku-band and Ka-Band shall be studied and applied. The contractor shall analyze communication architectures within DoD , the Federal and commercial sectors in order to define equipment that can be prototyped and demonstrated. VSAT analyses shall include studying information and data flows in connecting network systems.

### 3.7.4 Command and Control (C2) System Development

The contractor shall develop, design, demonstrate and test development technologies for communications, situation awareness and fire control in airborne and surface vehicles. This shall include intranet techniques within the vehicle or platform, as well as vehicle-to-vehicle intranet communications. The contractor shall provide engineering support in the design, development and implementation of systems and subsystems that may be used by federal law enforcement agencies. Subsystems development may include communication, command and control, and situational awareness in a mobile or field configuration. The contractor shall design, develop, test and demonstrate a tactical command center

for various user communities. These may be used in a ground, surface or airborne context. These centers may also require integration into existing command structures to complete replacement of architecture to support new requirements.

### 3.7.5 Laser Communications

The contractor shall design, develop, test and demonstrate laser communication technology, a.k.a., Laser Comms. This includes the reuse of existing technologies for new applications or for development of new capabilities. Application areas shall include satellite laser ranging through point-to-point terrestrial, airborne, and satellite communications.

### 3.7.6 Networking Tasks

The contractor shall design and develop network architecture to support existing requirements, as well as new requirements due to emerging technology. The contractor shall perform studies and analysis of network techniques, network simulation, node development and protocol development and connection management across terrestrial and wireless systems. The contractor shall also develop software to implement the protocols and techniques resulting from these studies.

### 3.7.7 Integration of COTS/GOTS Products

The contractor shall provide support to integrate Commercial Off the Shelf (COTS) and Government Off the Shelf (GOTS) products with other COTS and GOTS products or, in some cases, with custom products in order to support emerging requirements.

### 3.7.8 Battlefield (Mobile) C4I Systems and Subsystems

The contractor shall design, develop, test, and demonstrate advanced Command, Control, Communications, Computers and Intelligence (C4I) systems and subsystems. The contractor shall support concept explorations of new, emerging hardware and software components through integration into C4I prototypes and testbeds. The contractor shall develop C4I concepts into qualification systems or subsystems suitable for operational testing. The contractor shall integrate new and existing subsystems appropriate for stated mission requirements. Integration into existing command structures for ground, surface, and airborne platforms may be required, or complete replacement of architectures to support new requirements may be required. Subsystems may comprise numerous functions such as communications (terrestrial, wireless, and

satellite), networking, processing, archiving, security, autonomy, and platform control.

### 3.7.9 Technology Demonstrations and Exercises Support

The contractor shall provide engineering support in the design, development, and implementation of systems and subsystems that are used in technology demonstrations and Warfighting exercises. Demonstrations shall be conducted for DoD organizations, or other Federal, State or local agencies, e.g., law enforcement organizations during Weapons of Mass Destruction (WMD) training events and anti-terrorism training events. Warfighting exercises may include experiments such as Fleet Battle Experiments, Joint Warfighter Interoperability Demonstrations (JWIDs) Army Warfighting Experiments (AEWs) and Limited User Evaluations (LUEs). Subsystem development may include communication, command and control, and situational awareness in mobile or field configurations.

## 3.8 Space Experiment, Payload Development, and On-Orbit Operations

The contractor shall provide technical and engineering support in the design, development, and implementation of spacecraft payloads and on-orbit experiments. The contractor shall provide technical and engineering support for on-orbit experiment/payload mission operations, including communications, command and control, on-orbit data storage, data transmission and retrieval. The SSDD has, for example, collaborated with the Space Science Division at NRL, as well as NASA and other agencies in the development and integration of space science experiments.

## 3.9 Advanced Concept Studies

At direction of the government, the contractor shall investigate, analyze, assess, and report on advanced concepts in space, airborne and ground systems. This effort shall include the following representative types of studies: theoretical investigations, modeling, materials analysis, reliability, survivability, manufacturability, availability, safety, manufacturing requirements, schedule planning, risk assessment, prototype demonstrations, and critical cost analysis. The contractor shall provide periodic updates on the progress of these studies and submit a final report at the conclusion of each study under the appropriate CDRL item.

### 3.10 Advanced Concept Technology Demonstration (ACTD)

The contractor shall provide engineering resources to support a variety of Advanced Concept Technology Demonstrations. Analyses shall be performed to identify difficulties and to identify optimum configurations and interfaces. The contractor shall pay particular attention to the investigation, simulation, and development of communication technologies and other newly developed protocols and networking algorithms. The contractor shall develop, test, and evaluate prototype units using these technologies to demonstrate their viability in a tactical environment.

The contractor shall also simulate, analyze, and develop advanced correlation algorithms, control and routing algorithms, and other algorithms and control software, which will be incorporated into various tactical communication systems/terminals.

The contractor shall develop models, simulations and prototypes of high-speed network management devices that can automatically react to the changing tactical environment. The devices should permit information to be automatically rerouted when various tactical nodes are lost. The contractor shall also investigate, analyze, and develop models/simulation for the relay of sensor data from/to various platforms.

### 3.11 Technology Transfer

The contractor shall assist the government in the technology transfer of space, tactical, airborne and ground systems development under this contract, all of which must be coordinated through the NRL's Technology Transfer Office. The research and development environment of NRL requires a strong coordination between NRL and other organizations and agencies. This coordination requires that various advanced technologies and devices developed by NRL be made available to other organizations with similar needs. Special emphasis will be placed on promoting the transfer of technology to encourage the free flow of new concepts and ideas and to reduce redundant development efforts.

The contractor shall generate materials for formal and informal training presentations to government and contractor personnel at Technical Interchange Meetings (TIMs). The information presented at these sessions will be aimed at enhancing the ability of individuals to grasp the concepts and technical information relating to the space and ground systems developed by the NRL.

### 3.12 Software (S/W) Engineering and Development

The contractor shall provide, as required, plans for each identified software engineering project, a set of software requirements, to include both functional and interface requirements. The contractor shall identify detailed functional, performance, interface, and qualification requirements for each computer SW configuration item (CSCI).

The contractor shall provide a configuration management (CM) system compatible with a designated NRL SSDD CM system and shall enable transfer of data between the contractor, NRL SSDD, and program sponsors.

The contractor shall provide evaluation of software using software metric tools such as McCabe, Logiscope, QA Metrics and Software Test Works (STW) to determine the potential reengineering value of legacy software/code.
The contractor shall provide software engineers to assist in the installation and usage of COTS and GOTS.

### 3.13 Communications Systems

The contractor shall investigate new algorithms, develop models, simulations, and advanced prototype communication units. The contractor will then test, operate, and enhance these units as part of the SSDD's continuing support of tactical communications.

### 3.14 Other Space-Related Support

The contractor shall provide technical support, as directed, for tasking to divisions at NRL in support of other future and existing space-related programs. This would, for example, include providing electronic testing, software test support, and other technical input with respect to experiments and technology development for both on-site and off-site activities.

## Appendix A

## Acronym List

ACTD Advanced Concept Technology Demonstration
ADP Automated Data Processing
ARAST Automated Range and Synchronization Test
ATD Advanced Technology Demonstration
ATM Asynchronous Transfer Mode
BEM Bus Ear Mouth
C4I Command, Control, Communications, and Intelligence
CAD Computer Aided Design
CDR Critical Design Review
CDRL Contract Data Requirements List
CM Configuration Management
CO Contracting Officer
CONOPs Concept of Operations
COR Contracting Officer's Representative
COTS Commercial Off the Shelf
CSSR Cost/Schedule Status Report
CWBS Contract Work Breakdown Structure
DLDC Data Link Data Compressor
DM Data Management
DOD Department of Defense
EHF Extremely High Frequency
EMI Electromagnetic Interference
EPS Electrical Power System
GFE Government Furnished Equipment
ICD Interface Control Documents
ICM Interface Communication Module
IV&V Independent Verification and Validation
IWL Interface Wire Lists
LUE Limited User Evaluation
MSR Monthly Status Report
NCST Naval Center for Space Technology
NRL Naval Research Laboratory
OCS Ordinance Control Equipment
PCS Personal Communications Systems
PDR Preliminary Design Review
PTG Pulse Timing Generator
RASTU Range and Synchronization Test Unit
RCE Reaction Control Equipment
RF Radio Frequency

RFI Radio Frequency Interference
SHF Super High Frequency
SOW Statement of Work
SRR Systems Requirements Review
SSDD Space Systems Development Department
STF Special Test Equipment
TIM Technical Interchange Meeting
TT&C Telemetry Tracking & Command
VSAT Very Small Aperture Terminal
UHF Ultra High Frequency
VHF Very High Frequency
WMD Weapons of Mass Destruction

# CONTRACT DATA REQUIREMENTS LIST

*Form Approved*
*OMB No. 0704-0188*



| A. CONTRACT LINE ITEM NO. | B. EXHIBIT | C. CATEGORY: |
|---|---|---|
| ALL | A | TDP _____ TM _____ OTHER _____ |

| D. SYSTEM/ITEM | E. CONTRACT/PR NO. | F. CONTRACT |
|---|---|---|
| | N00173-04-R-LS02 | |

## Block 1

| 1. DATA ITEM NO. | 2. TITLE OF DATA ITEM | 3. SUBTITLE | 17. PRICE GROUP |
|---|---|---|---|
| A001 | Corporate Program Management Documentation | | 18. ESTIMATED TOTAL PRICE |

| 4. AUTHORITY *(Data Acquisition Document No.)* | 5. CONTRACT REFERENCE | 6. REQUIRING OFFICE |
|---|---|---|
| | SOW 3.2 | NRL COR |

| 7. DD 250 REQ | 9. DIST STATEMENT REQUIRED | 10. FREQUENCY | 12. DATE OF FIRST SUBMISSION |
|---|---|---|---|
| LT | | ASREQ | ASREQ |
| **8. APP CODE** | | **11. AS OF DATE** | **13. DATE OF SUBSEQUENT SUBMISSION** |
| | | Award | |

**16. REMARKS**

The Contractor shall provide current organizational charts, and other documents necessary to keep the COR abreast of corporate organizational matters and changes relative to successful performance of the contract.

| 14. DISTRIBUTION | b. COPIES | | |
|---|---|---|---|
| a. ADDRESSEE | Draft | Final Reg | Final Repro |
| Code 8121 | | 1 | 2 |
| Code 8102 | | 1 | |
| | | | |
| 15. TOTAL → | 0 | 2 | 2 |

## Block 2

| 1. DATA ITEM NO. | 2. TITLE OF DATA ITEM | 3. SUBTITLE | 17. PRICE GROUP |
|---|---|---|---|
| A002 | Monthly Status Reports (MSR) | | 18. ESTIMATED TOTAL PRICE |

| 4. AUTHORITY *(Data Acquisition Document No.)* | 5. CONTRACT REFERENCE | 6. REQUIRING OFFICE |
|---|---|---|
| | SOW 3.2.1, 3.2.2 & assoc. subpara. | NRL COR |

| 7. DD 250 REQ | 9. DIST STATEMENT REQUIRED | 10. FREQUENCY | 12. DATE OF FIRST SUBMISSION |
|---|---|---|---|
| LT | | MTHLY | 30 DAC |
| **8. APP CODE** | | **11. AS OF DATE** | **13. DATE OF SUBSEQUENT SUBMISSION** |
| | | Award | 60 DAC |

**16. REMARKS**

The Contractor shall provide MSRs including details set forth in the relevant paragraphs under Sections 3.2.1 and 3.2.2. Please note that the Contract Funding Status Report shall also be submitted as part of these reports.

| 14. DISTRIBUTION | b. COPIES | | |
|---|---|---|---|
| a. ADDRESSEE | Draft | Final Reg | Final Repro |
| Code 8121 | | 1 | 2 |
| Code 8102 | | 1 | |
| | | | |
| 15. TOTAL → | 0 | 2 | 2 |

## Block 3

| 1. DATA ITEM NO. | 2. TITLE OF DATA ITEM | 3. SUBTITLE | 17. PRICE GROUP |
|---|---|---|---|
| A003 | Other Technical Documentation | | 18. ESTIMATED TOTAL PRICE |

| 4. AUTHORITY *(Data Acquisition Document No.)* | 5. CONTRACT REFERENCE | 6. REQUIRING OFFICE |
|---|---|---|
| | SOW 3.3, incl. Subparagraphs - 3.3.5 | NRL COR |

| 7. DD 250 REQ | 9. DIST STATEMENT REQUIRED | 10. FREQUENCY | 12. DATE OF FIRST SUBMISSION |
|---|---|---|---|
| LT | | ASREQ | ASREQ |
| **8. APP CODE** | | **11. AS OF DATE** | **13. DATE OF SUBSEQUENT SUBMISSION** |
| | | Award | |

**16. REMARKS**

The Contractor shall provide all documentation required under paragraph 3.3, to include subparagraphs through3.3.5. All documents must be prepared and submitted in accordance with the required Specifications and Standards.

| 14. DISTRIBUTION | b. COPIES | | |
|---|---|---|---|
| a. ADDRESSEE | Draft | Final Reg | Final Repro |
| NRL Code 8121 | | 1 | 2 |
| Code 8102 | | 1 | |
| | | | |
| 15. TOTAL → | 0 | 2 | 2 |

## Block 4

| 1. DATA ITEM NO. | 2. TITLE OF DATA ITEM | 3. SUBTITLE | 17. PRICE GROUP |
|---|---|---|---|
| A004 | Technical Reviews | | 18. ESTIMATED TOTAL PRICE |

| 4. AUTHORITY *(Data Acquisition Document No.)* | 5. CONTRACT REFERENCE | 6. REQUIRING OFFICE |
|---|---|---|
| | SOW Paragraph 3.3.6 | NRL COR |

| 7. DD 250 REQ | 9. DIST STATEMENT REQUIRED | 10. FREQUENCY | 12. DATE OF FIRST SUBMISSION |
|---|---|---|---|
| LT | | ASREQ | ASREQ |
| **8. APP CODE** | | **11. AS OF DATE** | **13. DATE OF SUBSEQUENT SUBMISSION** |
| | | Award | |

**16. REMARKS**

The Contractor shall videotape selected reviews and submit the videotape under this Data Item.

| 14. DISTRIBUTION | b. COPIES | | |
|---|---|---|---|
| a. ADDRESSEE | Draft | Final Reg | Final Repro |
| NRL Code 8121 | | 1 | 2 |
| Code 8102 | | 1 | |
| | | | |
| 15. TOTAL → | 0 | 2 | 2 |

| G. PREPARED BY | H. DATE | I. APPROVED BY | J. DATE |
|---|---|---|---|
| Code 8121 | | | |

# CONTRACT DATA REQUIREMENTS LIST

*Form Approved*
*OMB No. 0704-0188*



| A. CONTRACT LINE ITEM NO. | B. EXHIBIT | C. CATEGORY: |
|---|---|---|
| ALL | A | TDP _____ TM _____ OTHER _____ |

| D. SYSTEM/ITEM | E. CONTRACT/PR NO. | F. CONTRACT |
|---|---|---|
| | N00173-04-R-LS02 | |

## Block 1

| 1. DATA ITEM NO. | 2. TITLE OF DATA ITEM | 3. SUBTITLE | 17. PRICE GROUP |
|---|---|---|---|
| A005 | Project Plans and Schedules | | 18. ESTIMATED TOTAL PRICE |

| 4. AUTHORITY *(Data Acquisition Document No.)* | 5. CONTRACT REFERENCE | 6. REQUIRING OFFICE |
|---|---|---|
| | SOW 3.3.8 | NRL COR |

| 7. DD 250 REQ | 9. DIST STATEMENT REQUIRED | 10. FREQUENCY | 12. DATE OF FIRST SUBMISSION |
|---|---|---|---|
| LT | | ASREQ | ASREQ |
| **8. APP CODE** | | **11. AS OF DATE** | **13. DATE OF SUBSEQUENT SUBMISSION** |
| | | Award | |

**16. REMARKS**
The Contractor shall generate, maintain and provide schedules for each task assignment as required by the referenced SOW paragraph.

| 14. DISTRIBUTION | b. COPIES | | |
|---|---|---|---|
| a. ADDRESSEE | Draft | Final Reg | Final Repro |
| Code 8121 | | 1 | 2 |
| Code 8102 | | 1 | |
| | | | |
| 15. TOTAL → | 0 | 2 | 2 |

## Block 2

| 1. DATA ITEM NO. | 2. TITLE OF DATA ITEM | 3. SUBTITLE | 17. PRICE GROUP |
|---|---|---|---|
| A006 | Technical Assessmetns and Engineering Analyses | | 18. ESTIMATED TOTAL PRICE |

| 4. AUTHORITY *(Data Acquisition Document No.)* | 5. CONTRACT REFERENCE | 6. REQUIRING OFFICE |
|---|---|---|
| | SOW paragraph 3.4.3 | NRL COR |

| 7. DD 250 REQ | 9. DIST STATEMENT REQUIRED | 10. FREQUENCY | 12. DATE OF FIRST SUBMISSION |
|---|---|---|---|
| LT | | ASREQ | |
| **8. APP CODE** | | **11. AS OF DATE** | **13. DATE OF SUBSEQUENT SUBMISSION** |
| | | Award | |

**16. REMARKS**
The Contractor shall prepare and submit technical assessments and engineering analyses reports in accordance with the aforementioned SOW paragraph 3.4.3.

| 14. DISTRIBUTION | b. COPIES | | |
|---|---|---|---|
| a. ADDRESSEE | Draft | Final Reg | Final Repro |
| Code 8121 | | 1 | 2 |
| Code 8102 | | 1 | |
| | | | |
| 15. TOTAL → | 0 | 2 | 2 |

## Block 3

| 1. DATA ITEM NO. | 2. TITLE OF DATA ITEM | 3. SUBTITLE | 17. PRICE GROUP |
|---|---|---|---|
| A007 | Independent Verification and Validation (IV&V) | | 18. ESTIMATED TOTAL PRICE |

| 4. AUTHORITY *(Data Acquisition Document No.)* | 5. CONTRACT REFERENCE | 6. REQUIRING OFFICE |
|---|---|---|
| | SOW paragraph 3.4.4 | NRL COR |

| 7. DD 250 REQ | 9. DIST STATEMENT REQUIRED | 10. FREQUENCY | 12. DATE OF FIRST SUBMISSION |
|---|---|---|---|
| LT | | ASREQ | ASREQ |
| **8. APP CODE** | | **11. AS OF DATE** | **13. DATE OF SUBSEQUENT SUBMISSION** |
| | | Award | |

**16. REMARKS**
The Contractor shall document and submit the results of the IV&V efforts required.

| 14. DISTRIBUTION | b. COPIES | | |
|---|---|---|---|
| a. ADDRESSEE | Draft | Final Reg | Final Repro |
| NRL Code 8121 | | 1 | 2 |
| Code 8102 | | 1 | |
| | | | |
| 15. TOTAL → | 0 | 2 | 2 |

## Block 4

| 1. DATA ITEM NO. | 2. TITLE OF DATA ITEM | 3. SUBTITLE | 17. PRICE GROUP |
|---|---|---|---|
| A008 | Space Systems Documentation | | 18. ESTIMATED TOTAL PRICE |

| 4. AUTHORITY *(Data Acquisition Document No.)* | 5. CONTRACT REFERENCE | 6. REQUIRING OFFICE |
|---|---|---|
| | SOW Paragraphs 3.5 - 3.5.9 | NRL COR |

| 7. DD 250 REQ | 9. DIST STATEMENT REQUIRED | 10. FREQUENCY | 12. DATE OF FIRST SUBMISSION |
|---|---|---|---|
| LT | | ASREQ | ASREQ |
| **8. APP CODE** | | **11. AS OF DATE** | **13. DATE OF SUBSEQUENT SUBMISSION** |
| | | Award | |

**16. REMARKS**
The Contractor shall provide the documentation required under the aforementioned paragraphs as required through technical direction

| 14. DISTRIBUTION | b. COPIES | | |
|---|---|---|---|
| a. ADDRESSEE | Draft | Final Reg | Final Repro |
| NRL Code 8121 | | 1 | 2 |
| Code 8102 | | 1 | |
| | | | |
| 15. TOTAL → | 0 | 2 | 2 |

| G. PREPARED BY | H. DATE | I. APPROVED BY | J. DATE |
|---|---|---|---|
| Code 8121 | | | |

# CONTRACT DATA REQUIREMENTS LIST

*Form Approved*
*OMB No. 0704-0188*



| A. CONTRACT LINE ITEM NO. | B. EXHIBIT | C. CATEGORY: |
|---|---|---|
| ALL | A | TDP _____ TM _____ OTHER _____ |

| D. SYSTEM/ITEM | E. CONTRACT/PR NO. | F. CONTRACT |
|---|---|---|
| | N00173-04-R-LS02 | |

## Block 1

| 1. DATA ITEM NO. | 2. TITLE OF DATA ITEM | 3. SUBTITLE | 17. PRICE GROUP |
|---|---|---|---|
| A009 | Advanced Concept Studies | | 18. ESTIMATED TOTAL PRICE |

| 4. AUTHORITY *(Data Acquisition Document No.)* | 5. CONTRACT REFERENCE | 6. REQUIRING OFFICE |
|---|---|---|
| | SOW 3.9 | NRL COR |

| 7. DD 250 REQ | 9. DIST STATEMENT REQUIRED | 10. FREQUENCY | 12. DATE OF FIRST SUBMISSION |
|---|---|---|---|
| LT | | ASREQ | ASREQ |
| **8. APP CODE** | | **11. AS OF DATE** | **13. DATE OF SUBSEQUENT SUBMISSION** |
| | | Award | |

**16. REMARKS**
The Contractor shall provide periodic updates on the progress of the studies and submit a final report within 15 days of the conclusion of each study.

**14. DISTRIBUTION**

| a. ADDRESSEE | b. COPIES | | |
|---|---|---|---|
| | Draft | Final | |
| | | Reg | Repro |
| Code 8121 | | 1 | 2 |
| Code 8102 | | 1 | |
| | | | |
| 15. TOTAL → | 0 | 2 | 2 |

## Block 2

| 1. DATA ITEM NO. | 2. TITLE OF DATA ITEM | 3. SUBTITLE | 17. PRICE GROUP |
|---|---|---|---|
| A010 | Final Reports | | 18. ESTIMATED TOTAL PRICE |

| 4. AUTHORITY *(Data Acquisition Document No.)* | 5. CONTRACT REFERENCE | 6. REQUIRING OFFICE |
|---|---|---|
| | SOW | NRL COR |

| 7. DD 250 REQ | 9. DIST STATEMENT REQUIRED | 10. FREQUENCY | 12. DATE OF FIRST SUBMISSION |
|---|---|---|---|
| DD | | ASREQ | Block 16 |
| **8. APP CODE** | | **11. AS OF DATE** | **13. DATE OF SUBSEQUENT SUBMISSION** |
| | | Award | |

**16. REMARKS**
The Contractor shall prepare and submit final reports for each of the tasks specified in the SOW. These reports will summarize all work accomplished. Published articles may be accepted as technical reports if the COR approves it.

**14. DISTRIBUTION**

| a. ADDRESSEE | b. COPIES | | |
|---|---|---|---|
| | Draft | Final | |
| | | Reg | Repro |
| Code 8121 | | 1 | 2 |
| Code 8102 | | 1 | |
| | | | |
| 15. TOTAL → | 0 | 2 | 2 |

## Block 3

| 1. DATA ITEM NO. | 2. TITLE OF DATA ITEM | 3. SUBTITLE | 17. PRICE GROUP |
|---|---|---|---|
| A011 | Computer-Based Deliverables | | 18. ESTIMATED TOTAL PRICE |

| 4. AUTHORITY *(Data Acquisition Document No.)* | 5. CONTRACT REFERENCE | 6. REQUIRING OFFICE |
|---|---|---|
| | SOW | NRL COR |

| 7. DD 250 REQ | 9. DIST STATEMENT REQUIRED | 10. FREQUENCY | 12. DATE OF FIRST SUBMISSION |
|---|---|---|---|
| DD | | ASREQ | |
| **8. APP CODE** | | **11. AS OF DATE** | **13. DATE OF SUBSEQUENT SUBMISSION** |
| | | Award | |

**16. REMARKS**
The contractor shall provide the following at a minimum: software, databases, models, computer simulations, algorithms, programs, documentation, instructions, computer-generated drawings, designs & source code (Electronic & Hard copy)

**14. DISTRIBUTION**

| a. ADDRESSEE | b. COPIES | | |
|---|---|---|---|
| | Draft | Final | |
| | | Reg | Repro |
| Code 8121 | | 1 | 2 |
| Code 8102 | | 1 | |
| | | | |
| 15. TOTAL → | 0 | 2 | 2 |

## Block 4

| 1. DATA ITEM NO. | 2. TITLE OF DATA ITEM | 3. SUBTITLE | 17. PRICE GROUP |
|---|---|---|---|
| | | | 18. ESTIMATED TOTAL PRICE |

| 4. AUTHORITY *(Data Acquisition Document No.)* | 5. CONTRACT REFERENCE | 6. REQUIRING OFFICE |
|---|---|---|
| | | |

| 7. DD 250 REQ | 9. DIST STATEMENT REQUIRED | 10. FREQUENCY | 12. DATE OF FIRST SUBMISSION |
|---|---|---|---|
| | | | |
| **8. APP CODE** | | **11. AS OF DATE** | **13. DATE OF SUBSEQUENT SUBMISSION** |
| | | | |

**16. REMARKS**

**14. DISTRIBUTION**

| a. ADDRESSEE | b. COPIES | | |
|---|---|---|---|
| | Draft | Final | |
| | | Reg | Repro |
| | | | |
| | | | |
| | | | |
| 15. TOTAL → | 0 | 0 | 0 |

| G. PREPARED BY | H. DATE | I. APPROVED BY | J. DATE |
|---|---|---|---|
| Code 8121 | | | |

# CONTRACT DATA REQUIREMENTS LIST
*(1 Data Item)*

*Form Approved*
*OMB No. 0704-0188*



| A. CONTRACT LINE ITEM NO. | B. EXHIBIT | C. CATEGORY: TDP ____ TM ____ OTHER F |
|---|---|---|
| 0001 | A | |

| D. SYSTEM/ITEM | E. CONTRACT/PR NO. | F. CONTRACTOR |
|---|---|---|
| | N00173-04-R-LS02 | |

| 1. DATA ITEM NO. | 2. TITLE OF DATA ITEM | 3. SUBTITLE |
|---|---|---|
| A012 | Contractor On-Site Labor Report | |

| 4. AUTHORITY *(Data Acquisition Document No.)* | 5. CONTRACT REFERENCE | 6. REQUIRING OFFICE |
|---|---|---|
| N/A | | NRL CODE 8121 |

| 7. DD 250 REQ | 9. DIST STATEMENT REQUIRED | 10. FREQUENCY | 12. DATE OF FIRST SUBMISSION |
|---|---|---|---|
| LT | N/A | MNTLY | 30 DAC |
| **8. APP CODE** | | **11. AS OF DATE** | **13. DATE OF SUBSEQUENT SUBMISSION** |
| N/A | | Award | |

**16. REMARKS**

The Contractor shall deliver the On-Site Labor Report no later than five (5) days after the end of each reporting month. The report must include as a minimum the following data:

Reporting Period:
Contract Number (and Order Number, if applicable):
Contract Value:
Current Funding:
Amount Expended in Current Period:
Total Expended to Date:
Date Submitted:

Labor (including subcontractors) - Show employee name, number of hours, and total amount billed for contractor employees working on-site at NRL. If the contractor employees worked on multiple tasks (as defined by the COR), the numbers of hours worked on each task must be shown separately.

**14. DISTRIBUTION**

| a. ADDRESSEE | b. COPIES | | |
|---|---|---|---|
| | Draft | Final | |
| | | Reg | Repro |
| COR | 0 | 1 | 0 |
| AO (Code 8102) | 0 | 1 | 0 |
| 15. TOTAL → | 0 | 2 | 0 |

**17. PRICE GROUP**

**18. ESTIMATED TOTAL PRICE**

| G. PREPARED BY | H. DATE | I. APPROVED BY | J. DATE |
|---|---|---|---|
| Code 8121 | | | |

# DEPARTMENT OF DEFENSE
# CONTRACT SECURITY CLASSIFICATION SPECIFICATION

*(The requirements of the DoD Industrial Security Manual apply to all security aspects of this effort.)*

**1. CLEARANCE AND SAFEGUARDING** SER: 017-04

a. FACILITY CLEARANCE REQUIRED: TOP SECRET

b. LEVEL OF SAFEGUARDING REQUIRED: SECRET

**2. THIS SPECIFICATION IS FOR:** *(X and complete as applicable)*

| | | |
|---|---|---|
| | a. PRIME CONTRACT NUMBER | |
| | b. SUBCONTRACT NUMBER | |
| X | c. SOLICITATION OR OTHER NUMBER: 81-0149-04 | DUE DATE *(YYYYMMDD)* |

**3. THIS SPECIFICATION IS:** *(X and complete as applicable)*

| | | | |
|---|---|---|---|
| X | a. ORIGINAL *(Complete date in all cases)* | | DATE *(YYYYMMDD)*: 20040319 |
| | b. REVISED *(Supersedes all previous specs)* | REVISION NO. | DATE *(YYYYMMDD)* |
| | c. FINAL *(Complete Item 5 in all cases)* | | DATE *(YYYYMMDD)* |

**4. IS THIS A FOLLOW-ON CONTRACT?** [ ] YES [X] NO. If Yes, complete the following:

Classified material received or generated under _____ *(Preceding Contract Number)* is transferred to this follow-on contract.

**5. IS THIS A FINAL DD FORM 254?** [ ] YES [X] NO. If Yes, complete the following:

In response to the contractor's request dated _____, retention of the classified material is authorized for the period of _____

**6. CONTRACTOR** *(Include Commercial and Government Entity (CAGE) Code)*

| a. NAME, ADDRESS, AND ZIP CODE | b. CAGE CODE | c. COGNIZANT SECURITY OFFICE *(Name, Address, and Zip Code)* |
|---|---|---|
| FOR RFP PURPOSE ONLY, NOT VALID FOR ACTUAL CONTRACT AWARD | | N/A |

**7. SUBCONTRACTOR**

| a. NAME, ADDRESS, AND ZIP CODE | b. CAGE CODE | c. COGNIZANT SECURITY OFFICE *(Name, Address, and Zip Code)* |
|---|---|---|
| N/A | | N/A |

**8. ACTUAL PERFORMANCE**

| a. LOCATION | b. CAGE CODE | c. COGNIZANT SECURITY OFFICE *(Name, Address, and Zip Code)* |
|---|---|---|
| N/A | | N/A |

**9. GENERAL IDENTIFICATION OF THIS PROCUREMENT**

TECHNICAL AND ENGINEERING SUPPORT (SES) CONTRACT

| 10. CONTRACTOR WILL REQUIRE ACCESS TO: | YES | NO | 11. IN PERFORMING THIS CONTRACT, THE CONTRACTOR WILL: | YES | NO |
|---|---|---|---|---|---|
| a. COMMUNICATIONS SECURITY (COMSEC) INFORMATION | X | | a. HAVE ACCESS TO CLASSIFIED INFORMATION ONLY AT ANOTHER CONTRACTOR'S FACILITY OR A GOVERNMENT ACTIVITY | | X |
| b. RESTRICTED DATA | | X | b. RECEIVE CLASSIFIED DOCUMENTS ONLY | | X |
| c. CRITICAL NUCLEAR WEAPON DESIGN INFORMATION | | X | c. RECEIVE AND GENERATE CLASSIFIED MATERIAL | X | |
| d. FORMERLY RESTRICTED DATA | | X | d. FABRICATE, MODIFY, OR STORE CLASSIFIED HARDWARE | X | |
| e. INTELLIGENCE INFORMATION | | | e. PERFORM SERVICES ONLY | | X |
| (1) Sensitive Compartmented Information (SCI) | X | | f. HAVE ACCESS TO U.S. CLASSIFIED INFORMATION OUTSIDE THE U.S., PUERTO RICO, U.S. POSSESSIONS AND TRUST TERRITORIES | | X |
| (2) Non-SCI | X | | g. BE AUTHORIZED TO USE THE SERVICES OF DEFENSE TECHNICAL INFORMATION CENTER (DTIC) OR OTHER SECONDARY DISTRIBUTION CENTER | | X |
| f. SPECIAL ACCESS INFORMATION | | X | h. REQUIRE A COMSEC ACCOUNT | X | |
| g. NATO INFORMATION | | X | i. HAVE TEMPEST REQUIREMENTS | | X |
| h. FOREIGN GOVERNMENT INFORMATION | | X | j. HAVE OPERATIONS SECURITY (OPSEC) REQUIREMENTS | | X |
| i. LIMITED DISSEMINATION INFORMATION | | X | k. BE AUTHORIZED TO USE THE DEFENSE COURIER SERVICE | X | |
| j. FOR OFFICIAL USE ONLY INFORMATION | | X | l. OTHER *(Specify)* | X | |
| k. OTHER *(Specify)* | | | SECURE VOICE CAPABILITY REQUIRED | | |

DD FORM 254, DEC 1999 PREVIOUS EDITION IS OBSOLETE.

Reset

**12. PUBLIC RELEASE.** Any information *(classified or unclassified)* pertaining to this contract shall not be released for public dissemination except as provided by the Industrial Security Manual or unless it has been approved for public release by appropriate U.S. Government authority. Proposed public releases shall be submitted for approval prior to release [ ] Direct [X] Through *(Specify)*

COMMANDING OFFICER, NAVAL RESEARCH LABORATORY, WASHINGTON, DC 20375-5320, CODE 8107.
NO PUBLIC RELEASE OF SCI AUTORIZED.

to the Directorate for Freedom of Information and Security Review, Office of the Assistant Secretary of Defense (Public Affairs)* for review.
*In the case of non-DoD User Agencies, requests for disclosure shall be submitted to that agency.

**13. SECURITY GUIDANCE.** The security classifiection guidance needed for this classified effort is identified below. If any difficulty is encountered in applying this guidance or if any other contributing factor indicates a need for changes in this guidance, the contractor is authorized and encouraged to provide recommended changes; to challenge the guidance or the classification assigned to any information or material furnished or generated under this contract; and to submit any questions for interpretation of this guidance to the official identified below. Pending final decision, the information involved shall be handled and protected at the highest level of classification assigned or recommended. *(Fill in as appropriate for the classified effort. Attach, or forward under separate correspondence, any documents/guides/extracts referenced herein. Add additional pages as needed to provide complete guidance.)*

Access to classified information is not required for the purpose of submitting a bid/proposal for this statement of work. However, prior to award of contract, the successful contractor will be required to have a TOP SECRET facility clearance, SECRET storage capabilities and personnel eligible for Sensitive Compartmented Information.

**14. ADDITIONAL SECURITY REQUIREMENTS.** Requirements, in addition to ISM requirements, are established for this contract. [ ] Yes [X] No
*(If Yes, identify the pertinent contractual clauses in the contract document itself, or provide an appropriate statement which identifies the additional requirements. Provide a copy of the requirements to the cognizant security office. Use Item 13 if additional space is needed.)*

**15. INSPECTIONS.** Elements of this contract are outside the inspection responsibility of the cognizant security office. [ ] Yes [X] No
*(If Yes, explain and identify specific areas or elements carved out and the activity responsible for inspections. Use Item 13 if additional space is needed.)*

**16. CERTIFICATION AND SIGNATURE. Security requirements stated herein are complete and adequate for safeguarding the classified information to be released or generated under this classified effort. All questions shall be referred to the official named below.**

| a. TYPED NAME OF CERTIFYING OFFICIAL | b. TITLE | c. TELEPHONE *(Include Area Code)* |
|---|---|---|
| TINA SMALLWOOD | CONTRACTING OFFICER, SECURITY | (202)767-2240/2521 |

d. ADDRESS *(Include Zip Code)*
NAVAL RESEARCH LABORATORY
4555 OVERLOOK AVE., SW
WASHINGTON, DC 20375-5320

e. SIGNATURE

**17. REQUIRED DISTRIBUTION**

| | |
|---|---|
| [X] | a. CONTRACTOR |
| [ ] | b. SUBCONTRACTOR |
| [X] | c. COGNIZANT SECURITY OFFICE FOR PRIME AND SUBCONTRACTOR |
| [ ] | d. U.S. ACTIVITY RESPONSIBLE FOR OVERSEAS SECURITY ADMINISTRATION |
| [ ] | e. ADMINISTRATIVE CONTRACTING OFFICER |
| [X] | f. OTHERS AS NECESSARY 1221.1,1223.1.8107,8102,ONI |

**DD FORM 254 (BACK), DEC 1999**

# PERSONNEL REQUIREMENTS

Note: Key personnel are indicated with an asterisk*.

The Naval Research Laboratory (NRL) established a representative matrix of the labor categories and skills to which the contractor shall propose. Resumes shall use the same labor category headings to relate the experience of the candidates to the standards set forth below. If the contractor uses a labor category terminology other than that used in this provision, the contractor must provide a matrix clearly relating their proposed labor categories to those in the provision. Only one resume per key category is required. The proposed personnel shall be available for work efforts on the first day after contract award. Personnel designated as key personnel must possess or be capable of obtaining a Sensitive Compartmented Information (SCI) clearance. It is further desired that all non-key personnel also be capable of obtaining the same. The following pages contain the desired qualifications for each of the required labor categories

Systems Engineer*

Education - Bachelors degree from an accredited university or college in Engineering, Mathematics or Computer Science; or Associates degree in Engineering or a related physical science combined with ten (10) years of applicable experience.

Experience - At least five (5) years of experience providing systems engineering support for space and/or communications systems. Systems engineering experience with Low Earth Orbiting (LEO) satellites is particularly desirable. Experience in the area of maintaining and enhancing high-speed network systems using existing platforms or developing new network systems is necessary.

Typical Assignments -

A. After reviewing system specifications, interface control documents, and other appropriate documents, assists subsystem lead personnel in the development of system specifications.
B. Makes or influences decisions regarding the redesign or reconfiguration of systems or subsystems after evaluating existing or proposed requirements.
C. Directs or conducts research necessary for the development of new systems or the enhancement of existing systems.
D. Using sound engineering judgment and taking into account such factors as performance, cost, and reliability, develops new systems or enhances existing systems by assembling or integrating component subsystems.
E. Ensures system compatibility by developing communication protocols and interface standards. Ensures that these standards and protocols are implemented in new system and/or subsystem designs.
F. Prepares or supervises the preparation of engineering drawings and documentation relative to design activities.
G. Provides technical assistance and guidance to subordinates and superiors in conjunction with ongoing design activities.

Electrical Engineer*

Education - Bachelors degree from an accredited university or college in Engineering or an Associates degree in Engineering or a related physical science combined with ten (10) years of applicable experience.

Experience - At least five (5) years of experience providing electrical engineering support for space and/or communication systems. Experience in designing flight hardware for Low Earth Orbiting (LEO) satellites or tactical communications systems is particularly desirable.

Typical Assignments -

A. Directs or conducts research necessary for the development of new systems or the enhancement of existing systems.
B. Using sound engineering judgment and established design practices, designs and develops new electronic circuits and subsystems to meet established specifications and requirements.
C. Tests and evaluates circuits and subsystems to ensure compliance with compatibility and performance specifications. Determines the source and corrects all anomalies discovered during testing. Ensures the reliability of new designs.
D. Prepares or supervises the preparation of engineering drawings and documentation relative to design activities.
E. Provides technical assistance and guidance to subordinates and superiors in conjunction with ongoing design activities.

Computer Scientist*

Education - Bachelors or Advanced degree in Mathematics, Engineering, Computer Science, or some other appropriate field; or corresponding Associates degree combined with a minimum of six (6) years of applicable experience.

Experience - At least five (5) years of experience developing algorithms and software for space and/or communication systems. Systems engineering experience with Low Earth Orbiting (LEO) satellites, test equipment and satellite ground stations is particularly desirable. Experience in the area of maintaining and enhancing high-speed network systems using existing platforms or developing new network systems is necessary.

Typical Assignments -

A. Applies a broad range of programming concepts to assignments of a complex and sophisticated nature to solve scientific and/or engineering problems through the use of data processing equipment.
B. Under minimal supervision, exercises appreciable latitude for actions or decisions in meeting the requirements of task assignments. Acts as programming leader under higher management direction to accomplish task assignments as required.
C. Analyzes system specific actions to obtain direction for programming activities and may, if required, provides subsystem specifications to further augment satisfactory job completion.
D. Employs structured techniques in all phases of software development.
E. Designs and codes software.
F. Tests and debugs programs and prepares operating procedures to guide operators.
G. Evaluates and modifies existing programs using improved techniques or incorporating new system requirements or equipment configurations.
H. Provides technical assistance and guidance to subordinates and superiors in conjunction with ongoing activities.

Computer Specialist*

Education - Bachelors degree in Mathematics, Engineering, Computer Science or some other appropriate field; or corresponding Associates degree combined with a minimum of four years of applicable experience.

Experience - At least Five (5) years of experience generating software for space and/or communication systems. Experience with Low Earth Orbiting (LEO) satellites and other real-time systems is particularly desirable. Experience in the area of maintaining and enhancing high-speed network systems using exiting platforms or developing new network systems is necessary.

Typical Assignments -

A. Designs and implements non-routine software programs in the following application areas: operating systems; command, control and communication systems; and engineering or scientific applications.
B. Confers and collaborates with system analysts, customers, other entities in systems and/or application planning and accomplishment.
C. Employs structured techniques in designing, coding, testing, and documenting programs.
D. Designs and codes programs.
E. Tests and debugs programs and prepares procedures to guide operators.
F. Originates programming documentation and updates it as required.
G. Evaluates and modifies existing programs using improved techniques or taking into account changes in system requirements or equipment configurations.
H. Develops simulated data for test purposes.

# Electronics Technician

Education - Associates degree in Engineering, Computer Science, or Mathematics, or some other appropriate field, or two (2) years of equivalent applicable experience.

Experience - At least one (1) year of experience providing support to space and/or communications systems. Experience with COTS hardware integration is particularly desirable.

Typical Assignments -

A. Performs a variety of complex technical duties, including systems modification, troubleshooting, tests, and major repairs on electronic and electro-mechanical equipment, as a part of a maintenance and operations process. Work requires an in-depth knowledge of electronic theory and practices.
B. Reads and interprets schematic and wiring diagrams, wave forms and diagnostic results, assembly drawings and specifications, and relates these to overall system performance or malfunctions.
C. Disassembles and reassembles complex equipment for the repair or replacement of defective parts, wiring, and electrical or mechanical units.
D. Assembles and fabricates systems from the component-level, using correct wire wrap, solder, and assembly techniques.
E. Assists in the design of electronic circuits and mechanical modifications to permit successful interfacing of equipment to related systems.
F. Inspects, tests, and advises on the operation and troubleshooting of equipment such as computer systems and associated peripheral hardware.
G. Directs or coordinates the work of other technicians, as assigned.

Program Manager*

Education - Bachelors and/or Masters degree from an accredited university or college combined with ten years of applicable experience.

Experience - At least five (5) years of experience providing management support for space and/or communication systems. Experience with satellite and tactical communications development programs is particularly desirable.

Typical Tasks -

A. Develops program plans for the successful execution of new or existing technology development efforts. Ensures that adequate resources are available to complete the efforts.
B. Develops Cost Work Breakdown Structures (CWBS), schedules, budgetary estimates for tracking the technical and financial performance of new or existing development efforts.
C. Makes or influences decisions regarding the design or reconfiguration of systems or subsystems after evaluating existing or proposed system requirements.
F. Monitors the technical performance of ongoing activities. Reassigns or adjusts resource priorities to ensure the timely completion of projects.
G. Manages the efforts of the managerial, technical and administrative personnel assigned to complete various aspects of ongoing or new projects.
H. Deals directly with the customer and is responsible for maintaining good relations with the customer as well as fostering good inter-company relations where applicable.

Mechanical Engineer*

Education/Experience - BS degree in engineering or applied science with at least three (3) years of related experience, in lieu of formal education; 10 years of directly related work experience.

Typical Tasks -

A. Performs a variety of engineering work in planning and design of products, tools, engines, machines and other mechanically functioning equipment and mechanical industrial processes, including thermodynamic and fluid systems.

B. Oversees production, installation, operation, maintenance and repair of such equipment.

C. Works closely with other engineering disciplines in the development and application of robotics to increase production quality, efficiency or volume.

D. Works with electrical engineers in the design and development of electro-mechanical devices and components. Works with aerospace engineers in the design and development of mechanical, environmental, and ordnance subsystems for aerospace vehicles, such as satellites. Related or sub-engineering disciplines in this position category: industrial engineering, metallurgical/materials engineering, nuclear engineering, optical engineering and production/processing engineering.

E. Executes specific engineering assignments under the direction and guidance of higher-level engineers. Carries out predetermined concepts and procedures for equipment or component design, testing, construction and installation, engineering research and study programs. Works independently, directing and coordinating the work of engineers and other technical personnel engaged in the compilation of engineering data, construction and testing of models, designing subsystem components, writing reports and test procedures.

F. Performs other functions necessary to complete engineering assignments.

G. Assists other high level engineers or higher level engineering program elements engaged in an engineering or research project. Assumes responsibility for a major segment of related work. Represents the company at the subcontractors' plants, customer's engineering department, field and test installations, or other field locations. May act as leader for a small single function team; represents the organization related to a specific project.

Mechanical Engineer *(continued)*

Responsibilities of Position

Performs various administrative projects/assignments which may require the development of new solutions to department/site operational issues.

Implements management directives and adapts internal systems and procedures to enhance operating efficiencies, in support of operating objectives.

Prepares and analyzes data, such as budget/cost estimates, contract specifications, flow charts, and labor hour estimates.

Maintains department/site databases and statistical spreadsheets.

May serve as department/site training coordinator. Administers or assists in the administration a financial management system including financial planning, budgeting, etc. by applying sound accounting principals. May conduct physical inspections of equipment, track/maintain inventory records and prepare related topics. May maintain personnel records for department/site including leave records, salary actions, expense reports, etc. ensuring compliance with company policies and procedures.

Experience with and knowledge of MILSTD and DoD Standards, plus 5 years experience. It is highly desirable to hold a Certified Configuration Specialist certificate from the American Defense Preparedness Association.
Identifies, controls, status accounting; and audit/review requirements of CM discipline.

Knowledgeable of management controls.

Provides all levels of CM support to Program/Project Managers. Assist with the identification of configuration items. Updates configuration control processes as required. Performs status reporting. Supports audits and reviews, distributes minutes of same and track action items. Decisions may impact program/department expenditure of resources. Exhibits full use and application of standard business administration principles and practices. Frequently deals with multiple problems at the same time. Resolves administrative/operational issues in primary functional area. Minimal customer influence. Performs all other duties as assigned.

Project Coordinator*

Education -

Bachelors degree in Accounting or Business Administration; or corresponding Associates degree; or three (3) years of applicable experience.

Typical Assignments -

A. Establishes an operational plan for the completion of assigned tasks including scheduling, staffing, materials, and facilities to meet contract requirements at minimum cost.
B. Monitors the technical performance, progress, and fiscal status of tasks on a continuing basis and takes management action to correct any deficiencies at the earliest possible time.
C. Makes recommendations for the origination or augmentation of policies and procedures to meet specific needs of the customer.
D. Monitors wage and salary budgets and expense account data to effect control of established budget factors and policy limitations.
E. Ensures that fiscal responsibilities are in compliance with Government and program requirements. Audits accounts.

CAD Operator/Specialist

Education - Associates degree in Electro-mechanical Drafting with associated special courses in the use and application of computer-aided design techniques or equivalent experience. A minimum of five (5) years experience as a CAD designer using analog, digital and surface-mount design techniques when performing layout of high-density boards. Knowledge of Mentor and or AUTOCAD operating systems and ORCAD schematic capture system is desirable. Experience with Mechanical Desktop, Inventor and Solid Works is also desirable.

Typical Assignments -

A. Interface with mechanic packaging engineering.
B. Coordination with electrical engineering on specific requirements.
C. Develop component identification schemes and symbols for including in the CAD Library
D. Maintain the CAD Library.
E. Checking designs to ensure compliance with all standards.
F. Interface with drafting on all assembly drawings.
G. Supply documentation packages to Configuration Control before release.

| # | NAME | ADDRESS | POC | PHONE | E-MAIL | BUSINESS SIZE (if Provided) |
|---|---|---|---|---|---|---|
| 1 | AEPCO, Inc. | 130 Raymond Drive, Indiana PA 15701 | Pamela Evans | 724-465-3111 | pamela.evans@aepco.com | |
| 2 | AISG | 11315 Corporate Blvd. 210, Orlando FL 32817 | Robert Kuzma | 407-591-2929 (x-213) | rkuzma@aisg-gs.com | |
| 3 | AI Signal Research, Inc. | 3411 Triana Blvd, Huntsville AL 35805 | Bill Davis | 256-551-0008 (x-31) | bdavis@aisignal.com | SDB |
| 4 | Asgard Resources | 8707 Katy Fwy #300, Houston TX 77024 | Jim Kalember | 805-479-4854 | jkalember@asgardglobal.com | |
| 5 | Dayton Aerospace, Inc. | 4141 Colonel Glenn Hwy, Suite 252, Dayton OH 45431 | Vic Barnett | 937-426-4300 | vic.barnett@daytonaero.com | |
| 6 | DCS Corporation | 1330 Braddock Place, Alexandria VA 22314 | Jim Petek | 571-227-6281 | jpetek@dcscorp.com | |
| 7 | Diligent Consulting, Inc. | 8603 N. New Braunfels, Suite B, San Antonio TX 78217 | Ron Lee | 210-826-9300 (x-5) | ronl@diligent-us.com | SDVOSB |
| 8 | Dynamics Research Corp. | 2650 Park Tower Dr., Suite 400, Vienna VA 22180 | Bill Shaw | 571-226-8600 | bshaw@drc.com | |
| 9 | EmINENT Microsystems | 205 SE Spokane St., Suite 300, Portland OR 97202 | John Laws | 416-856-8227 | j.laws@ieee.org | SB |
| 10 | Fulcrum Corporation | 2750 Prosperity Ave., Suite 230, Fairfax VA 22031 | Vijay Kohli | 703-876-9750 | Vkohli@Fulcrum-Corp.com | |
| 11 | GENCO Systems, Inc. | 3900 Jermantown Rd., Suite 300, Fairfax VA 22030 | Anil Kumar | 703-934-4690 | anil.kumar@gencosystems.com | 8(a) Certified SB |
| 12 | KC Consulting Engineering | 10954 Hanley Dr., Rolla MO 65401 | Kirk Christensen | 573-341-7012 | kcconsult@hotmail.com | |
| 13 | Odyssey Systems Consulting Group | 1800 Diagonal Rd., Suite 604, Alexandria VA 22314 | Kurt Nahser | 703-684-4473 | kurtnahser@odysseyconsult.com | SB |
| 14 | OGM Corporation | 14101 W. Hwy 290 Suite 400B, Austin TX 78737 | Otto (Hobie) Caldwell | 512-858-7040 | hobie@orcagreen.com | |
| 15 | Pendulum Management Company, LLC | 11452 Highway 62, Suite 218, Charlestown, IN 47111 | Charles Saunders | 850-496-3830 | ssaunders@pendulumsite.com | |
| 16 | Operations & Maintenance Excellence, Inc. | West Richland, WA | Pete Owen | 509-531-1662 | powen@ome-inc.com | SDVOSB |
| 17 | RFK Dynamics | 1311 Ruffner Rd., Schenectady NY 12309 | Robert Kirchner | 518-372-5445 | kirchner@nycap.rr.com | SB |
| 18 | RTI International Ctr. For Tech. Applications | P.O. Box 12194, 3040 Cornwallis Rd., Research Triangle Park, NC 27709 | Kirsten Rieth | 919-967-4991 | krieth@rti.org | |
| 19 | Southeastern Computer Consultants, Inc. | 3 Hillcrest Dr., Suite A-201, Frederick, MD 21703 | Mr. Carey Faison | 301-695-5311 | cfaison@scci-inc.com | SB |
| 20 | SOFTCOMM | 2251 San Diego Ave., Suite A-145, San Diego CA 92110 | Mohan Krishnan | 619-299-2288 | marie@softcommm.com | |
| 21 | Systems of Systems Analytics Corp | 14900 Conference Ctr Dr., Suite 374, Chantilly VA 20151 | Dr. Robert Wright | 757-620-9785 | rwright@sosacorp.com | |
| 22 | Tactus Technologies, Inc. | 4250 Ridge Lea, Suite 39, Amherst NY 14226 | Dr. Kevin Chugh | 716-206-8463 | chugh@tactustech.com | SB |
| 23 | The Center for Systems Management | 2325 Dulles Corner Blvd., Suite 670, Herndon VA 20171 | Wynne Fender | 703-707-2030 | wfender@csm.com | |
| 24 | UTD Inc. | 8350 Alban Rd., Suite 700, Springfield VA 22150 | Dr. Michael Shore | 703-440-834 (x-209) | mshore@utdinc.com | SB |

TEAMING PREFERENCE - **NOT PROVIDED**

| # | NAME | ADDRESS | POC | PHONE | E-MAIL | BUSINESS SIZE (if Provided) |
|---|---|---|---|---|---|---|
| 1 | Computer Sciences Corp. | 1550 Crystal Drive, Arlington VA 22209 | Barbara Donigan | 703-872-8086 | bdoniganba@csc.com | |
| 2 | Lockheed Martin, IS&S | 230 Mall Blvd., Bldg. A - 23A30, King of Prussia PA 19406 | Frank Johns | 610-531-1518 | francis.j.johns@lmco.com | L |
| 3 | NexDSS Div of MACTEC, Inc. | Not Provided | James Watson | 734-765-3214 | jrwatson@mactec.com | |
| 4 | Penn State University, Applied Research Laboratory | Not Provided | Steve Fleischut | 215-682-4020 | spf2@psu.edu | |

TEAMING PREFERENCE - **PRIME or SUBCONTRACTOR**

| # | NAME | ADDRESS | POC | PHONE | E-MAIL | BUSINESS SIZE (if Provided) |
|---|---|---|---|---|---|---|
| 1 | Analalex Corporation | 5904 Richmond Hwy., Suite 300, Alexandria VA 22303 | Hugh VanBoening | 703-329-9400 | hugh.vanboening@analex.com | |
| 2 | ARINC Engineering Services, LLC | 2551 Riva Rd., Annapolis MD 21401 | Todd Hayward | 410-266-4784 | thayward@arinc.com | |
| 3 | INS Federal | 1919 Gallows Rd., Suite 900, Vienna Va 22182 | Brad Glasco | 703-650-0070 | brad.glasco@ins.com | SB |
| 4 | KTC KT Consulting | 621 W 2nd St. #201, Antioch CA 94509 | Patrick Collins | 916-724-0014 | pcollins@ktconsultinginc.com | SDVOSB, HubZone |
| 5 | PDS Technical Services, Inc. | 11145 Tampa Ave., Suite 25B, Northridge CA 91326 | Carman Chapman | 866-254-2964 | cchapman@psdtech.com | |
| 6 | Titan Corporation | 3033 South Parker Rd., Suite 1200, Aurora CO 80014 | Arlo Gravseth | 303-369-4410 | agravseth@titan.com | |

TEAMING PREFERENCE - **PRIME**

| # | NAME | ADDRESS | POC | PHONE | E-MAIL | BUSINESS SIZE (if Provided) |
|---|---|---|---|---|---|---|
| 1 | Assurance Technology Corp | 84 South Street, Carlisle, MA 01741 | Donna Gray | 978-369-8848 | gray@assurtech.com | |
| 2 | CSI Engineering, P.C. | Not Provided | Neil Ghosh | 301-210-9090 (x-223) | nghosh@csie.com | SDB and HubZone |